Home Theater DVD Player

HTS3538/12/51/55/05/98

Service
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Service Manual

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CLASS 1
LASER PRODUCT

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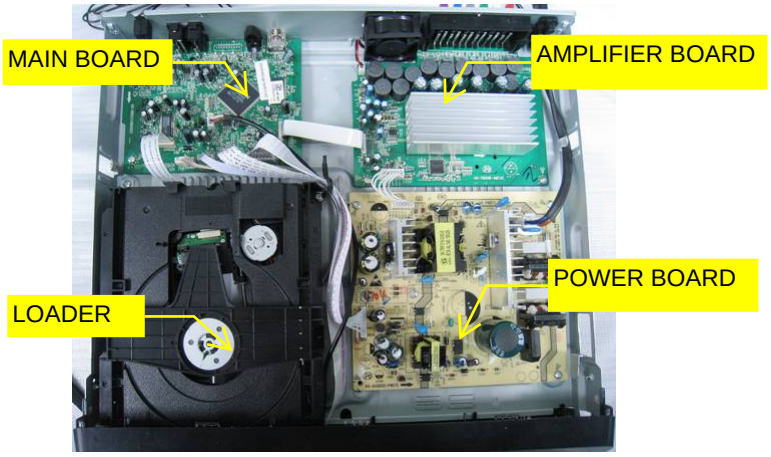
GB 313978536033

Version 1.3

PHILIPS

PCB BOARD LOCATION:



Version Variation

Type/Versions / Features	HTS3538				
	/12	/51	/55	/05	/98
Power supply rating:220-240V ,50Hz	X	X		X	
Power supply rating:110-240V ,50~60Hz			X		X
Power consumption:110W	X	X	X	X	X

Repair Scenario Matrix

Type/Versions / Board in used	HTS3538				
	/12	/51	/55	/05	/98
Main Board	C	C	C	C	C
Front Control Board	Bd	Bd	C	Bd	C
Amplifier Board	C	C	C	C	C
Power Board	C	C	C	C	C

***Bd:Board Level Replacement**
***C:Component Level Repair**

HTS3538/12/05:

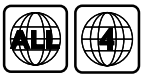
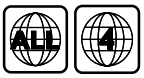
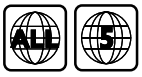
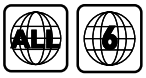
Product Specifications:

Note

- Specifications and design are subject to change without notice.

Region codes

The type plate on the back or bottom of the home theater shows which regions it supports.

Country	DVD
Europe, United Kingdom	
Asia Pacific, Taiwan, Korea	
Latin America	
Australia, New Zealand	
Russia, India	
China	

Media formats

- DVD-Video, DVD+R/+RW, DVD-R/-RW, DVD+R/-R DL, CD-R/CD-RW, Audio CD, Video CD/SVCD, Picture files, MP3 media, WMA media, DivX media, USB storage device

Amplifier

- Total output power: 600W RMS (30% THD)
- Frequency response: 20 Hz-20 kHz / ±3 dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
  - AUX: 2 V
  - Music iLink: 1 V

File formats

- Audio: .mp3, .wma
- Video: .avi, .divx, .mpg, .mpeg,
- Picture: .jpg, .jpeg

Video

- Signal system: PAL / NTSC
- HDMI output: 480i/576i, 480p/576p, 720p, 1080i, 1080p

Audio

- S/PDIF Digital audio input:
  - Optical: TOSLINK
- Sampling frequency:
  - MP3: 32 kHz, 44.1 kHz, 48 kHz
  - WMA: 44.1 kHz, 48 kHz
- Constant bit rate:
  - MP3: 32 kbps - 320 kbps
  - WMA: 64 kbps - 192 kbps

Radio

- Tuning range:
  - Europe/Russia/China: FM 87.5-108 MHz (50 kHz)
  - Asia Pacific/Latin America: FM 87.5-108 MHz (50/100 kHz)
- Signal-to-noise ratio: FM >45 dB
- Frequency response: FM 200 Hz-12.5 kHz / ±6 dB

USB

- Compatibility: Hi-Speed USB (2.0)
- Class support: USB Mass Storage Class (MSC)
- File system: FAT16, FAT32

Main unit

- Power supply:
  - Europe/China/Russia/India: 220-240V~, 50 Hz
  - Latin America/Asia Pacific: 110-240V~, 50-60 Hz
- Power consumption: 110 W
- Standby power consumption: ≤ 0.9 W
- Dimensions (WxHxD): 360 x 58 x 325 mm
- Weight: 2.52 kg

Subwoofer

- Output power: 100 W RMS (30% THD)
- Impedance: 4 ohm
- Speaker drivers: 133 mm (5.25") woofer
- Dimensions (WxHxD): 160 x 267.5 x 265 mm
- Weight: 2.55 kg

Speakers

Center speaker:

- Output power: 100 W RMS (30% THD)
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 63.5 mm (2.5") woofer
- Dimensions (WxHxD): 160 x 85 x 95 mm
- Weight: 0.37 kg

Front/Rear speaker:

- Output power: 4 x 100 W RMS (30% THD)
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 76.2 mm (3") twin driver
- Dimensions (WxHxD):
  - Speakers: 85 x 160 x 95mm
  - Tall speakers: 240 x 1007 x 240 mm
- Weight:
  - Speakers: 0.35 kg/each
  - Tall speakers: 1.57 kg/each

Remote control batteries

- 2 x AAA-R03-1.5 V

Laser

- Type: Semiconductor laser GaAlAs (CD)
- Wave length: 645 - 665 nm (DVD), 770 - 800 nm (CD)
- Output power: 6 mW (DVD), 7 mW (VCD/CD)
- Beam divergence: 60 degrees.

HTS3538/51:

Product Specifications:

Note

- Specifications and design are subject to change without notice.

Region codes

The type plate on the back or bottom of the home theater shows which regions it supports.

Country	DVD
Europe, United Kingdom	ALL, 2
Russia, India	ALL, 5

Media formats

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HTS3538/55

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Australia, New Zealand, Latin America	

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HTS3538/98

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- Beam divergence: 60 degrees.

Safety instruction, Warning & Notes

Safety instruction

1. General safety

Safety regulations require that during a repair:

. Connect the unit to the mains via an isolation transformer.

. Replace safety components indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

. Route the wires/cables correctly, and fix them with the mounted cable clamps.

. Check the insulation of the mains lead for external damage.

. Check the electrical DC resistance between the mains plug and the secondary side:

1) Unplug the mains cord, and connect a wire between the two pins of the mains plug.
2) Set the mains switch the "on" position (keep the mains cord unplug).
3) Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
4) Repair or correct unit when the resistance measurement is less than 1MΩ.
5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
6) Switch the unit "off", and remove the wire between the two pins of the mains plug.

2.Laser safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser device unit

Type : Semiconductor laser GaAlAs

Wavelength : 650nm (DVD)

: 780nm (VCD/CD)

Output power : 7mW (DVD)

: 10mW (DVD /CD)

Beam divergence: 60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

Warning

1.General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handing during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:

1) Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
2) Wristband tester 4822 344 13999.

. Be careful during measurements in the live voltage section. The primary side of the power supply , including the heat sink, carries live mains voltage when you connect the player to the mains (even when the player is “off”!). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A “lighting stroke” and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.

. Never replace modules, or components, while the unit is “on”.

2. Laser

. The use of optical instruments with this product, will increase eye hazard.

. Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.

. Repair handing should take place as much as possible with a disc loaded inside the player.

. Text below is placed inside the unit, on the laser cover shield:

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.

Notes: Manufactured under licence from Dolby Laboratories. The double-D symbol is trademarks of Dolby Laboratories, Inc. All rights reserved.

Service Hints

CAUTION

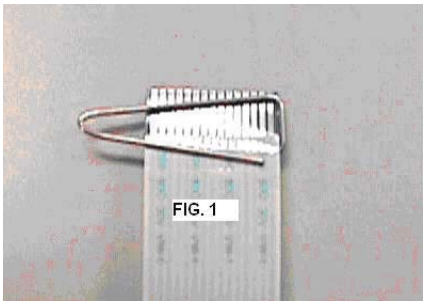
CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE.THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- **SWITCH OFF POWER SUPPLY**
- **ESD PROTECTION**

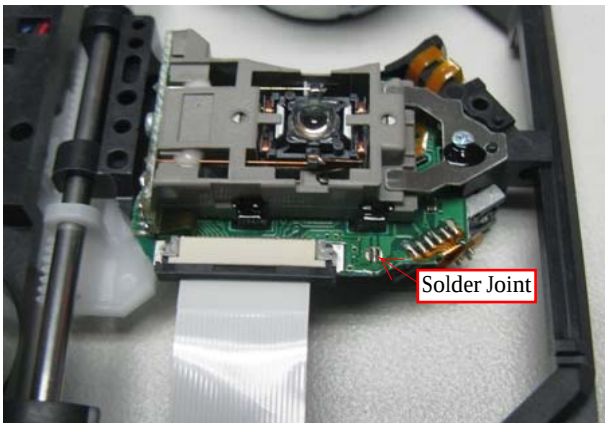
ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

The following steps have to be done when replacing the defective loader :

1. Dismantling of the loader to access the ESD protection point if necessary.
2. **Solder the ESD protection point*.**
3. Disconnect flexfoil cable from the defective loader.
4. Put a paper clip on the flexfoil to short-circuit the contacts (fig.1)
5. Replace the defective loader with a new loader.
6. Remove paperclip from the flexfoil and connect it to the new loader.
7. Remove solder joint on the ESD protection point.



ATTENTION: The laser diode of this loader is protected against ESD by a solder joint which shortcircuits the laserdiode to ground. For proper functionality of the loader this solder joint must be remove **after** connection loader to the set.



(ESD protection point is accessible from top of loader)

Only applicable for defective loader needed to be sent back to supplier for failure analysis and to support backcharging evidence.
This is also applicable for all partnership workshops.

Notes

Lead-Free requirement for service

INDENTIFICATION:

Regardless of special logo (not always indicated)

One must treat all sets from 1.1.2005 onwards, according next rules.

Important note: In fact also products a little older can also be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400°C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed
  solder alloy types (leaded and lead-free). If one cannot avoid, clean carefully the
  solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest lead-free temperature profile, in case of doubt)
  - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. This will be communicated via AYS-website.
  Do not re-use BGAs at all.
- For sets produced before 1.1.2005, containing leaded soldering-tin and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website:
  www.atyourservice.ce.Philips.com

You find more information to:

BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

EN Before using your product, read all accompanying safety information

CS Před použitím produktu si přečtěte doprovodné bezpečnostní informace

DA Læs alle medfølgende sikkerhedsoplysninger, inden du tager produktet i brug

DE Lesen Sie vor Verwendung dieses Produkts alle begleitenden Sicherheitsinformationen

EL Πριν χρησιμοποιήσετε το προϊόν, διαβάστε όλες τις παρεχόμενες πληροφορίες ασφάλειας

ES Antes de usar el producto, lea toda la información de seguridad adjunta

FI Lue kaikki turvallisuustiedot ennen tuotteen käyttöä

FR Avant d'utiliser votre produit, lisez l'intégralité des consignes de sécurité jointes

HU A termék használata előtt alaposan olvassa el a mellékelt biztonsági tudnivalókat

IT Prima di utilizzare il prodotto, leggere tutte le relative informazioni sulla sicurezza

NL Lees voordat u het product gaat gebruiken eerst alle bijbehorende veiligheidsinformatie

NO Lees voordat u het product gaat gebruiken eerst alle bijbehorende veiligheidsinformatie

PL Przed rozpoczęciem korzystania z produktu należy zapoznać się z informacjami dotyczącymi bezpieczeństwa

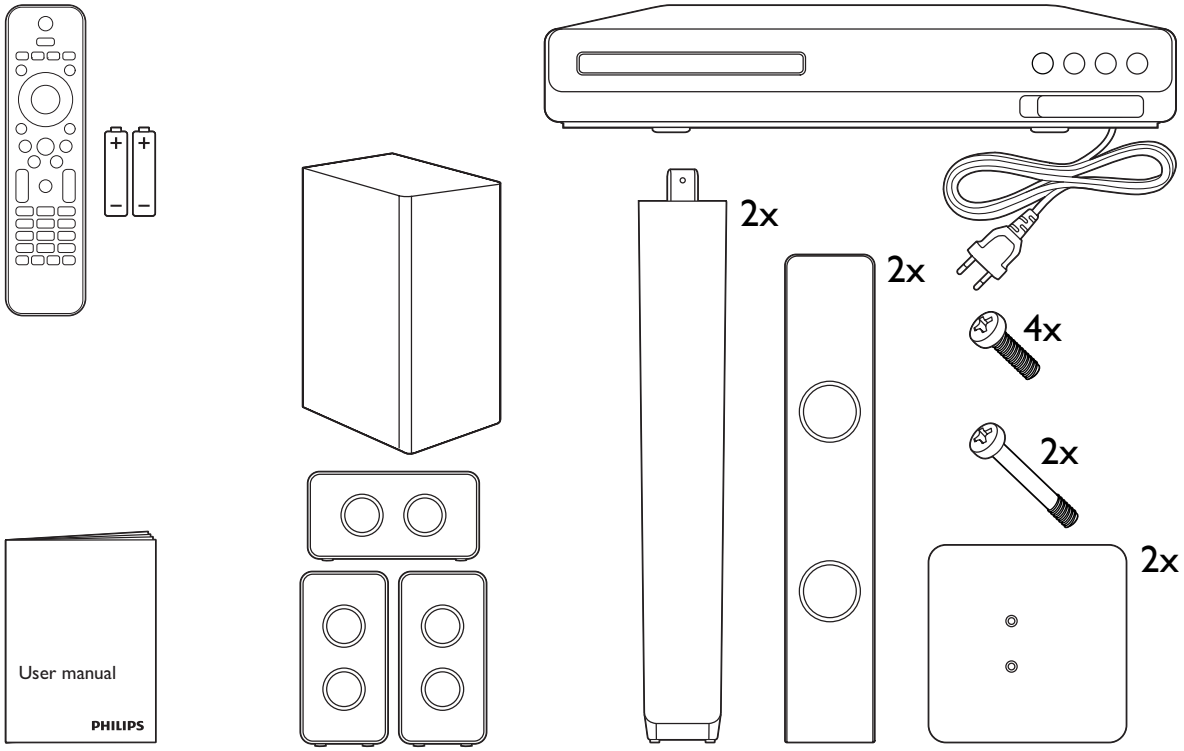
PT Antes de utilizar o produto, leia todas as informações de segurança que o acompanham

RO Înainte de a utiliza acest produs, citiţi toate informaţiile de siguranţă care îl însoţesc

SK Pred použitím produktu si prečítajte všetky sprievodné bezpečnostné informácie maklumat keselamatan yang disertakan

SV Innan du använder produkten ska du läsa all tillhörande säkerhetsinformation

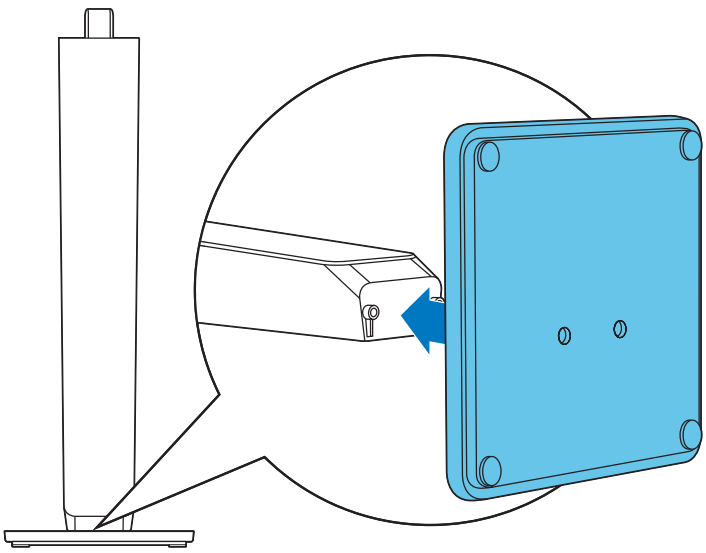
TR Ürününüzü kullanmadan önce ilgili tüm güvenlik bilgilerini okuyun



1

EN Stand mount the speakers
CS Nainstalujte reproduktory
DA Monter højttalerne på fod
DE Montage der Lautsprecher auf den Standfüßen
EL Στήστε τα ηχεία πάνω στις βάσεις
ES Monta los altavoces en la pared
FI Kaiuttimien kiinnitys jalustaan
FR Monter le pied des enceintes
HU A hangsugárzók állványra szerelése
IT Montaggio degli altoparlanti su supporto
NL Monteer de luidsprekers op de standaarden
NO Montere høyttalerne på stativ
PL Montaż głośników na podstawie
PT Colocar os altifalantes no suporte
RO Montaţi pe suport boxele
SK Montáž reproduktorov na stojan
SV Montera högtalarna på stativ
TR Hoparlörleri kaideye monte edin

1



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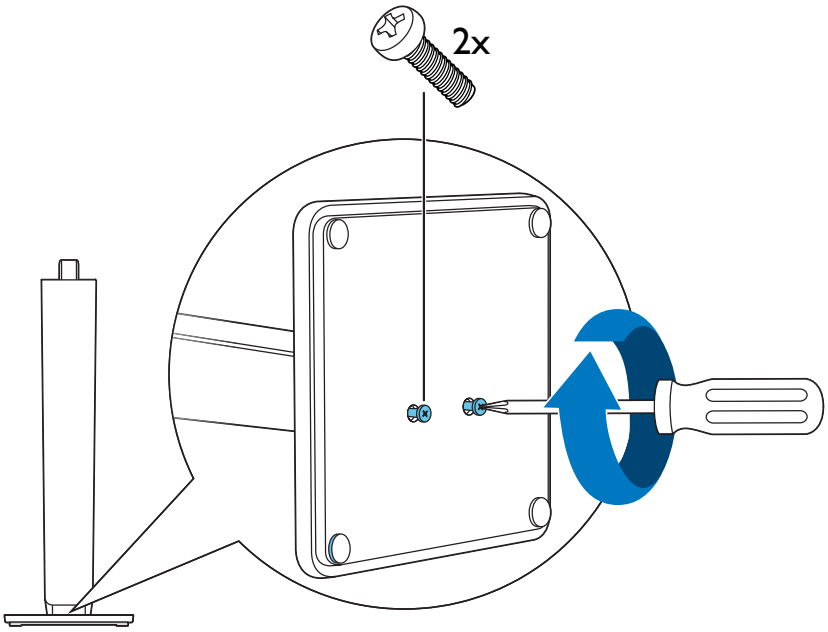

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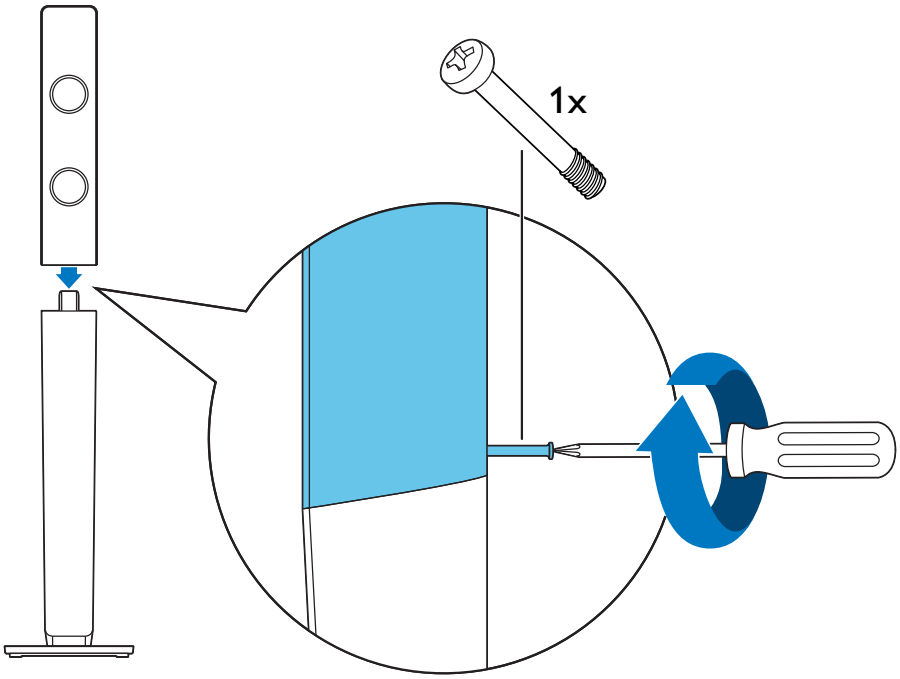
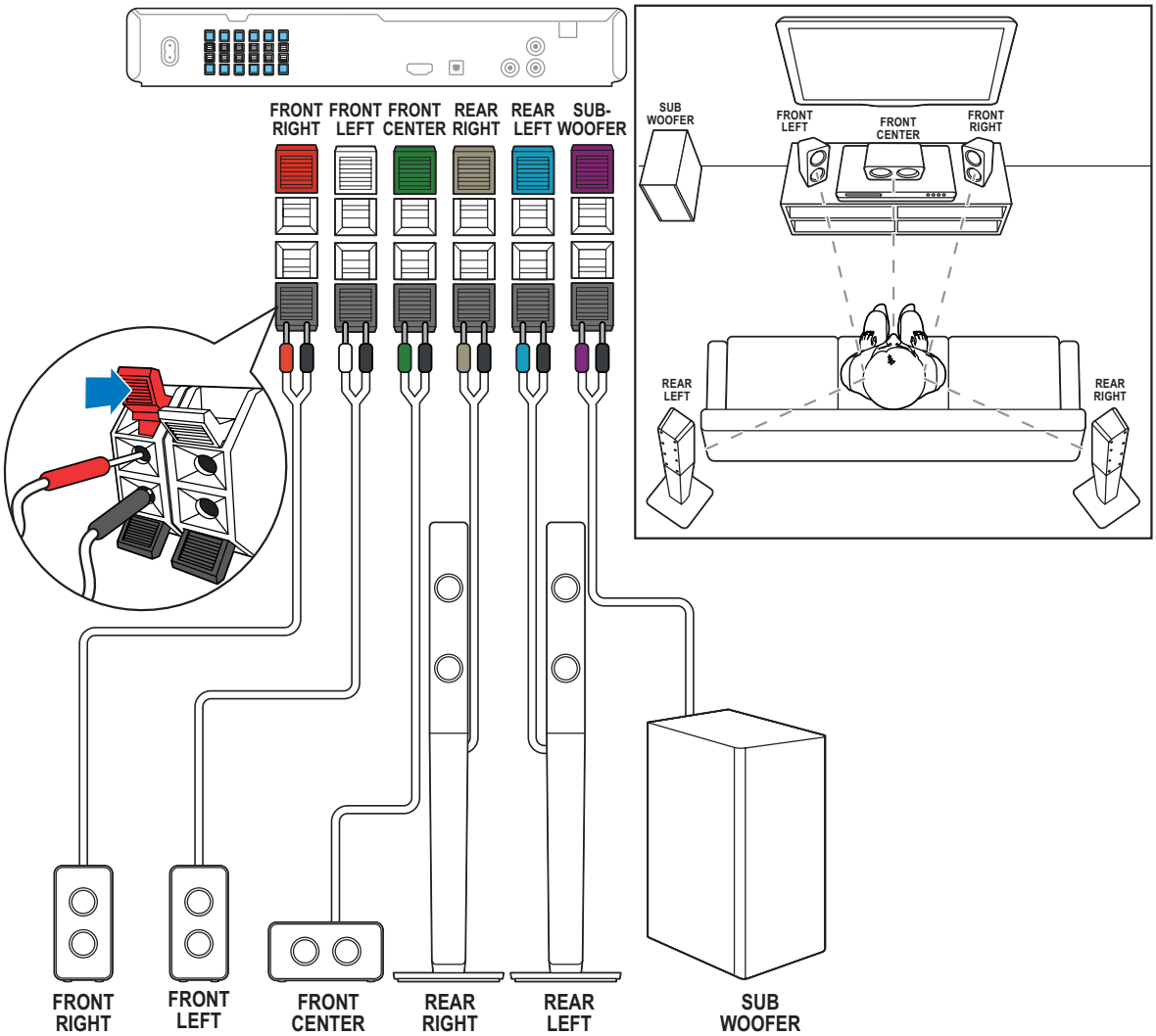


2

EN Connect the home theater
CS Připojte domácí kino
DA Tilslut hjemmebiografen
DE Anschließen des Home Entertainment-Systems
EL Συνδέστε το home cinema
ES Conecta el sistema de cine en casa
FI Kotiteatterin liitännät
FR Connecter les enceintes au Home Cinéma
HU A házimozi csatlakoztatása
IT Collegamento del sistema Home Theater
NL Sluit de home cinema aan
NO Koble til hjemmekinoanlegget
PL Podłączanie zestawu kina domowego
PT Efectuar as ligações ao sistema de cinema em casa
RO Conectaţi sistemul home theater
SK Pripojenie k domácemu kinu
SV Anslut hemmabiosystemet
TR Ev sinemasını bağlayın



3

EN Connect to TV in one of these ways

CS Připojení k televizoru proveďte jedním z následujících způsobů

DA Tilslut til TV på en af følgende måder

DE Herstellen einer Verbindung mit dem Fernseher über einer dieser Möglichkeiten

EL Συνδεθείτε στην τηλεόραση με έναν από τους παρακάτω τρόπους

ES Conexión al televisor de una de estas maneras

FI Liitä televisioon jommallakummalla tavalla

FR Connectez-vous au téléviseur via l'une de ces méthodes

HU Csatlakoztassa a tv-készülékhez az alábbi módok egyike szerint

IT Esegui il collegamento al TV in uno dei modi indicati di seguito

NL Maak op een van de volgende manieren verbinding met de TV

NO Koble til TVen på en av følgende måter

PL Podłącz do telewizora przy użyciu jednej z tych metod

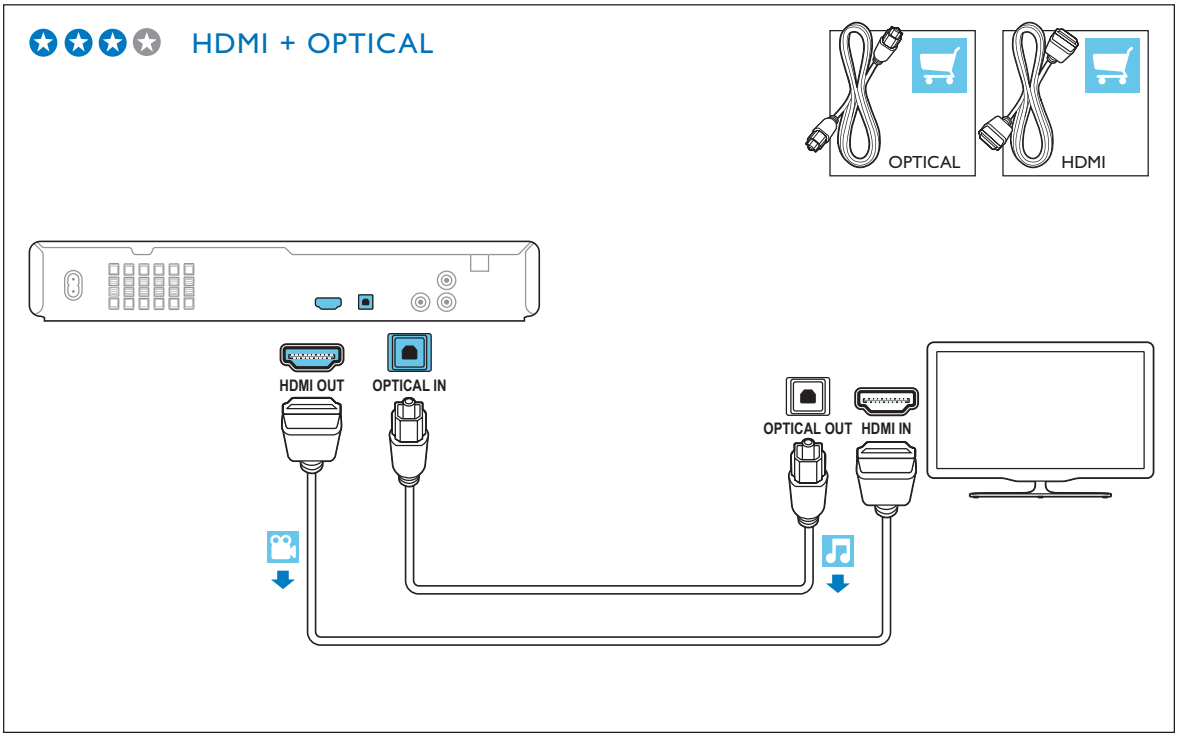
PT Ligar ao televisor de uma destas formas

RO Conectaţi-vă la televizor într-unul din aceste moduri

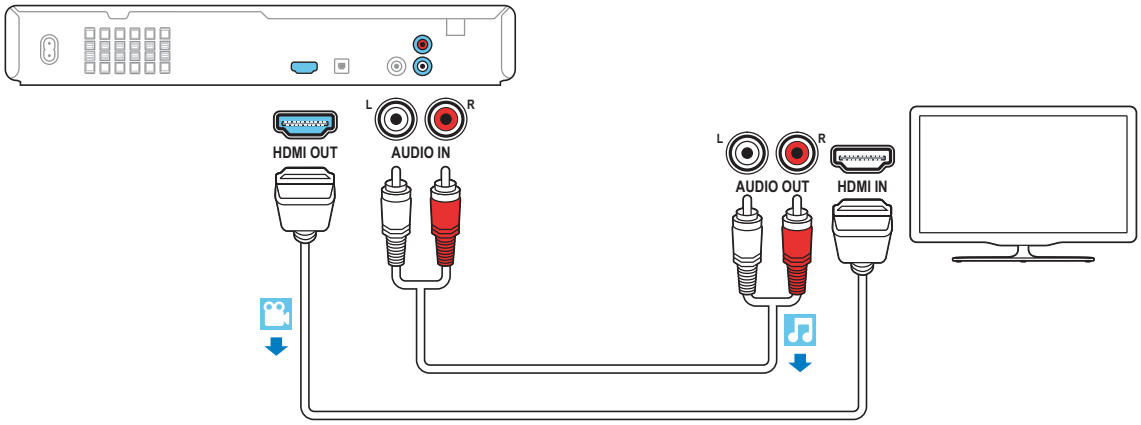
SK Pripojte zariadenie k televízoru jedným z týchto spôsobov

SV Anslut till TV:n på något av följande sätt

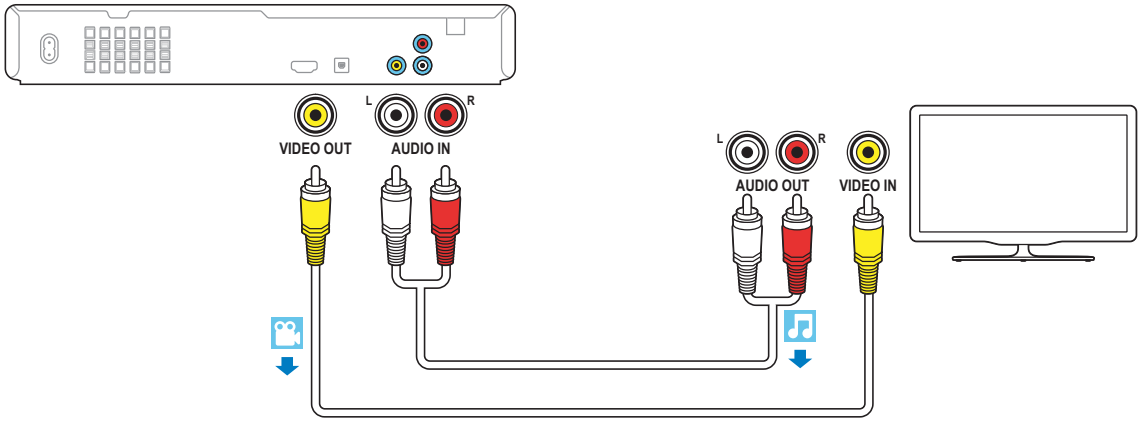
TR Aşağıdaki yöntemlerden biriyle TV'ye bağlanın



HDMI + AUDIO L/R



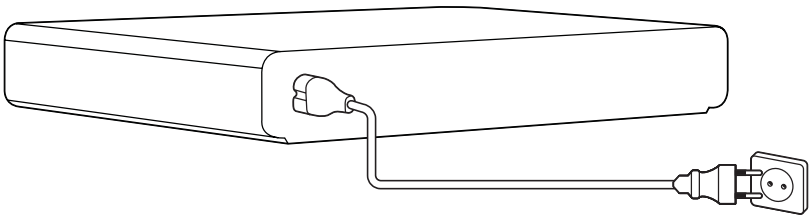
VIDEO + AUDIO L/R



4

EN Switch on the home theater
CS Zapněte domácí kino
DA Tænd for hjemmebiografen
DE Einschalten des Home Entertainment-Systems
EL Ενεργοποιήστε το home cinema
ES Enciende el sistema de cine en casa
FI Virran kytkeminen kotiteatteriin
FR Mettre sous tension le Home Cinéma
HU A házimozi bekapcsolása
IT Accensione del sistema Home Theater
NL Schakel de home cinema in
NO Slå på hjemmekinoanlegget
PL Włączanie zestawu kina domowego
PT Ligar o sistema de cinema em casa
RO Porniţi sistemul home theater
SK Zapnutie domáceho kina
SV Sätt på hemmabiosystemet
TR Ev sinemasını açın

1



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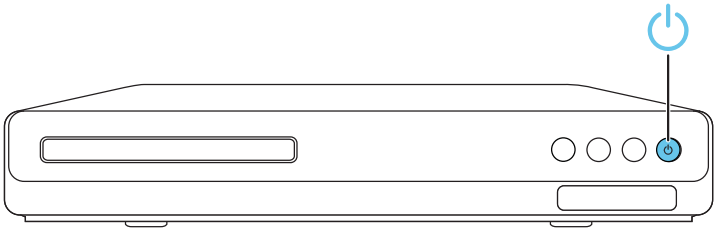

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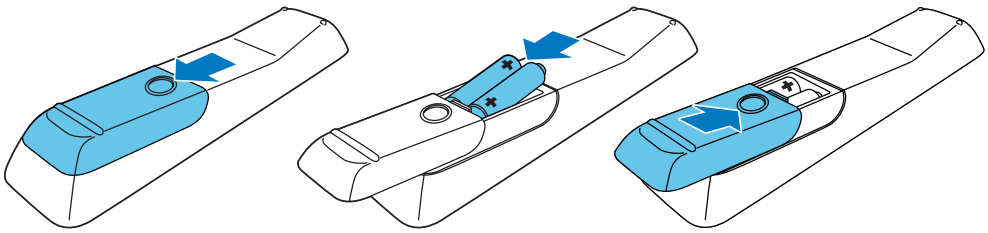
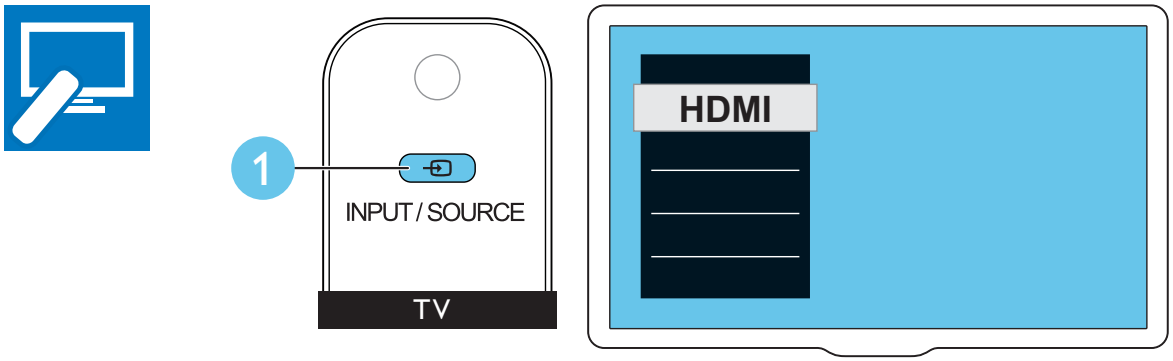
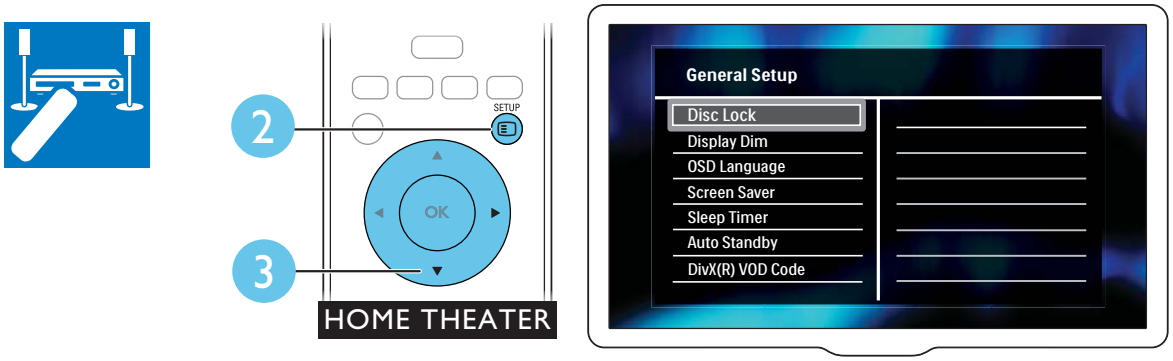
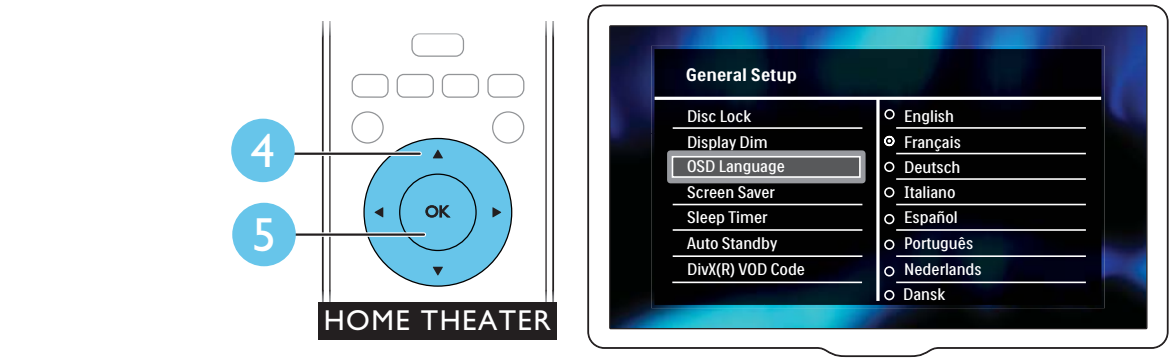


5

EN Complete the first time setup
CS Dokončili jste nastavení při prvním zapnutí
DA Fuldfør den indledende opsætning
DE Abschließen der Ersteinrichtung
EL Ολοκληρώστε τη ρύθμιση για πρώτη φορά
ES Finaliza la configuración inicial
FI Ensiasennuksen suorittaminen loppuun
FR Effectuer la configuration initiale
HU Az első üzembe helyezés
IT Completamento della configurazione iniziale
NL Voltooi de eerste installatie
NO Fullføre den første konfigureringen
PL Pierwsza konfiguracja
PT Executar a configuração inicial
RO Realizaţi prima configurare
SK Dokončenie prvého nastavenia
SV Slutför förstagångsinställningen
TR İlk kullanım öncesi kurulumunu tamamlayın

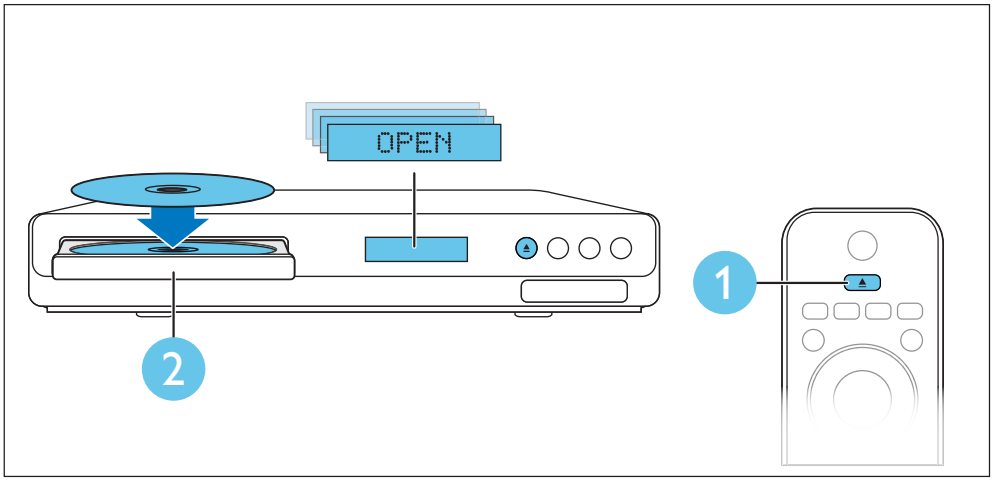


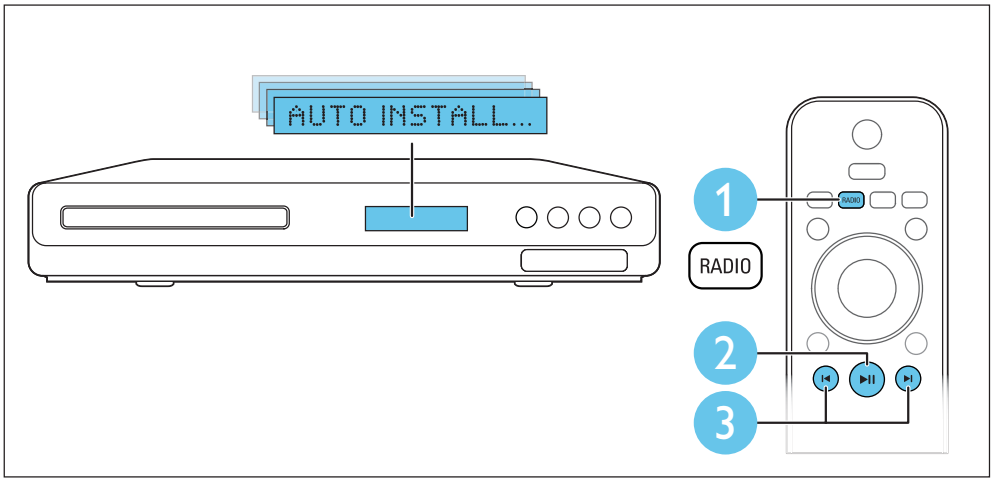


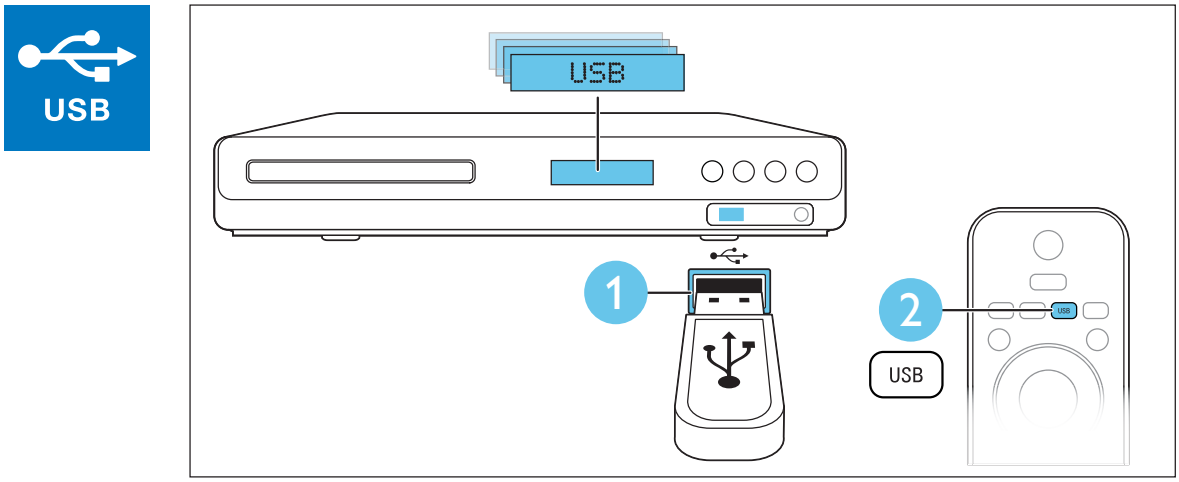


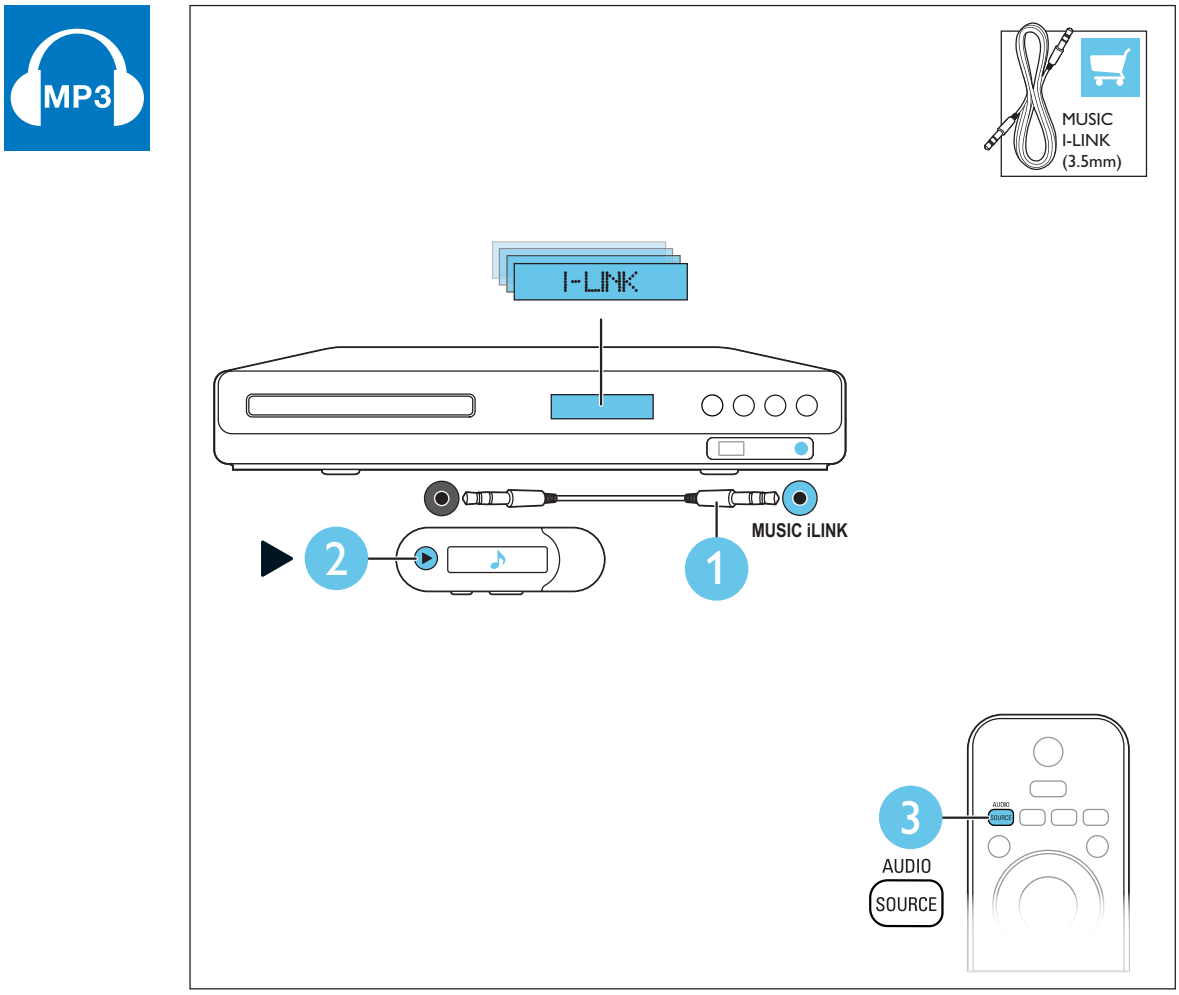
6

EN Use your home theater
CS Použití domácího kina
DA Brug af din hjemmebiograf
DE Verwenden des Home Entertainment-Systems
EL Χρησιμοποιήστε το home cinema
ES Uso del sistema de cine en casa
FI Kotiteatterin käyttäminen
FR Utiliser votre Home Cinéma
HU A házimozi használata
IT Utilizzo del sistema Home Theater
NL Uw home cinema bedienen
NO Bruke hjemmekinoanlegget
PL Korzystanie z zestawu kina domowego
PT Utilizar o sistema de cinema em casa
RO Utilizaţi sistemul home theater
SK Používanie domáceho kina
SV Använda hemmabiosystemet
TR Ev sinema sisteminin kullanılması






USB
USB
1
2
USB


MP3
MUSIC
I-LINK
(3.5mm)
I-LINK
MUSIC iLINK
2
1
3
AUDIO
SOURCE

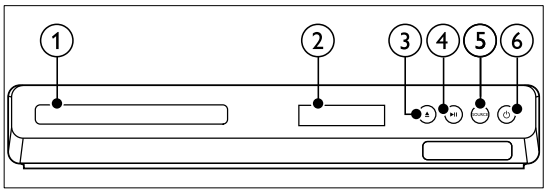
HTS3538/12/51/55/05

Your Home Theater

Congratulations on your purchase, and welcome to Philips! To fully benefit from the support that Philips offers, register your product at www.philips.com/welcome.

Main unit

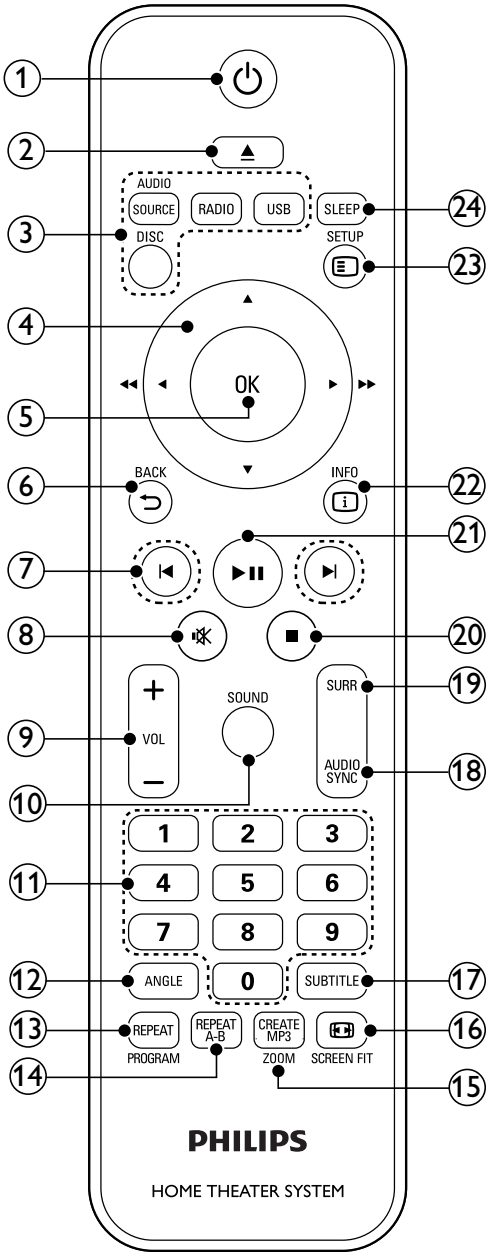
This section includes an overview of the main unit.



1. Disc compartment
2. Display panel
3. ▲ (Open/Close)
   Open or close the disc compartment, or eject the disc.
4. ▶❚❚ (Play/Pause)
   Start, pause or resume play.
5. SOURCE
   Select an audio or video source for the home theater.
6. ⏻ (Standby-On)
   Switch the home theater on or to standby.

Remote control

This section includes an overview of the remote control.



① ⏻ (Standby-On)
- Switch the home theater on or to standby.
- When EasyLink is enabled, press and hold for at least three seconds to switch all connected HDMI CEC compliant devices to standby.

② ⏏ (Open/Close)
Open or close the disc compartment, or eject the disc.

③ Source buttons
- **DISC**: Switch to disc source.Access or exit the disc menu when you play a disc.
- **AUDIO SOURCE**: Select an audio input source.
- **RADIO**: Switch to FM radio.
- **USB**: Switch to USB storage device.

④ Navigation buttons
- Navigate menus.
- In video mode, press left or right to fast backward or fast forward; press up or down to slow backward or slow forward.
- In radio mode, press left or right to search a radio station; press up or down to fine tune a radio frequency.

⑤ OK
Confirm an entry or selection.

⑥ ⮌ BACK
Return to a previous menu screen.

⑦ ⏮ / ⏭ (Previous/Next)
- Skip to the previous or next track, chapter or file.
- In radio mode, select a preset radio station.

⑧ 🔇 (Mute)
Mute or restore volume.

⑨ VOL +/-
Increase or decrease volume.

⑩ SOUND
Select a sound mode.

⑪ Numeric buttons
Select an item to play.

⑫ ANGLE
Select video scenes recorded in different camera angels.

⑬ REPEAT / PROGRAM
- Select or turn off repeat mode.
- In radio mode, press once to access program mode, and press again to store the radio station.
- In radio mode, press and hold for three seconds to reinstall the radio stations.

⑭ REPEAT A-B
Mark two points within a chapter or track to repeat play, or turn off the repeat mode.

⑮ CREATE MP3/ZOOM
- Access the create MP3 menu.
- Zoom into a video scene or picture. Press the **Navigation buttons** (left/right) to select a zoom factor.

⑯ SCREEN FIT
Fit the picture format to the TV screen.

⑰ SUBTITLE
Select subtitle language for video.

⑱ AUDIO SYNC
- Select an audio language or channel.
- Press and hold to access audio delay setting, and then press the **Navigation buttons** to delay the audio to match the video.

⑲ SURR
Select surround sound or stereo sound.

⑳ ■ (Stop)
- Stop play.
- In radio mode, press and hold to erase the current preset radio stations.

㉑ ▶❚❚ (Play/Pause)
Start, pause or resume play.

㉒ INFO
Access more play options while playing a disc or a USB storage device.

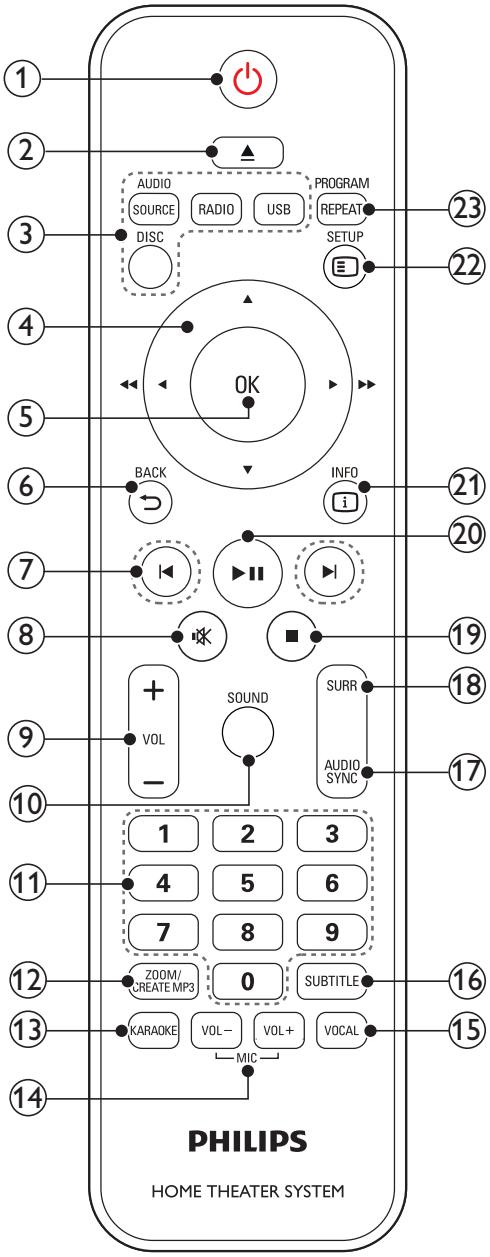
㉓ SETUP
Access or exit the setup menu.

㉔ SLEEP
Switch the home theater to standby mode after the elapsed time.

HTS3538/98

Remote control

This section includes an overview of the remote control.



① ⏻ (Standby-On)
- Switch the home theater on or to standby.
- When EasyLink is enabled, press and hold for at least three seconds to switch all connected HDMI CEC compliant devices to standby.

② ⏏ (Open/Close)
Open or close the disc compartment, or eject the disc.

③ Source buttons
- **DISC**: Switch to disc source.Access or exit the disc menu when you play a disc.
- **AUDIO SOURCE**: Select an audio input source.
- **RADIO**: Switch to FM radio.
- **USB**: Switch to USB storage device.

④ Navigation buttons
- Navigate menus.
- In video mode, press left or right to fast backward or fast forward; press up or down to slow forward or slow backward.
- In radio mode, press left or right to search a radio station; press up or down to fine tune a radio frequency.

⑤ OK
Confirm an entry or selection.

⑥ ⮌ BACK
Return to a previous menu screen.

⑦ ⏮ / ⏭ (Previous/Next)
- Skip to the previous or next track, chapter or file.
- In radio mode, select a preset radio station.

⑧ 🔇 (Mute)
Mute or restore volume.

⑨ VOL +/-
Increase or decrease volume.

⑩ SOUND
Select a sound mode.

⑪ Numeric buttons
Select an item to play.

⑫ CREATE MP3/ZOOM
- Access the create MP3 menu.
- Zoom into a video scene or picture. Press the **Navigation buttons** (left/right) to select a zoom factor.

⑬ KARAOKE
Access or exit the karaoke options.

⑭ MIC VOL +/-
Increase or decrease the microphone volume.

⑮ VOCAL
Turn the vocals on or off.

⑯ SUBTITLE
Select subtitle language for video.

⑰ AUDIO SYNC
- Select an audio language or channel.
- Press and hold to access audio delay setting, and then press the **+/-** or **Navigation buttons** to delay the audio to match the video.

⑱ SURR
Select surround sound or stereo sound.

⑲ ■ (Stop)
- Stop play.
- In radio mode, press and hold to erase the current preset radio stations.

⑳ ▶❚❚ (Play/Pause)
Start, pause or resume play.

㉑ INFO
Access more play options while playing a disc or a USB storage device.

㉒ SETUP
Access or exit the setup menu.

㉓ REPEAT/PROGRAM
- Select or turn off repeat mode.
- In radio mode, press once to access program mode, and press again to store the radio station.
- In radio mode, press and hold for three seconds to reinstall the radio stations.

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

The following guidelines show how to dismantle the player.

Step1: Remove 6 screws around the Top Cover, and then remove the Top Cover (Figure 1).

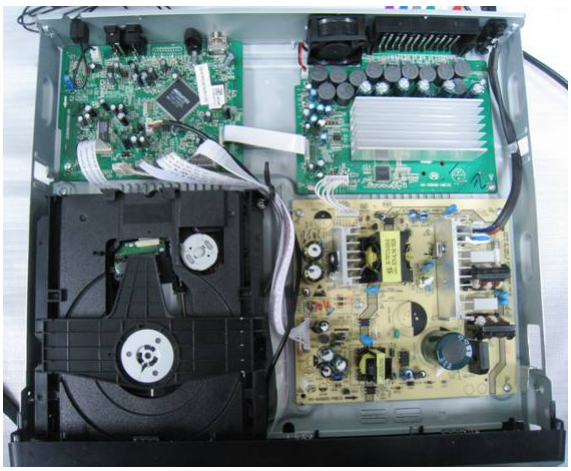


Figure 1

Step2: If it is necessary to dismantle Loader or Front Panel, the Front door should be removed first. (Figure 2)
Method A):Turn on the power button,then press open button to dismantle front door.Please kindly note that power off as soon as front door is out of machine.
Method B): If the tray can't open in normal way, you can make it through the instruction as below, an emergency exit at bottom cover of the machine.

Note: Make sure to operate gently otherwise the guider would be damaged.

Method A)

Method B)

Please kindly note that dismantle the front door assembly carefully to avoid damage tray and the front door.

Figure 2

Mechanical and Dismantling Instructions

Dismantling Instruction Detailed information please refer to the model set.

Step3 :Dismantle Front Panel, disconnect the connectors (XP12, XP4), need release 2 snaps of Front Panel & 2 snaps of bottom cabinet , then gently pull the Panel out from the set. (Figure 3)

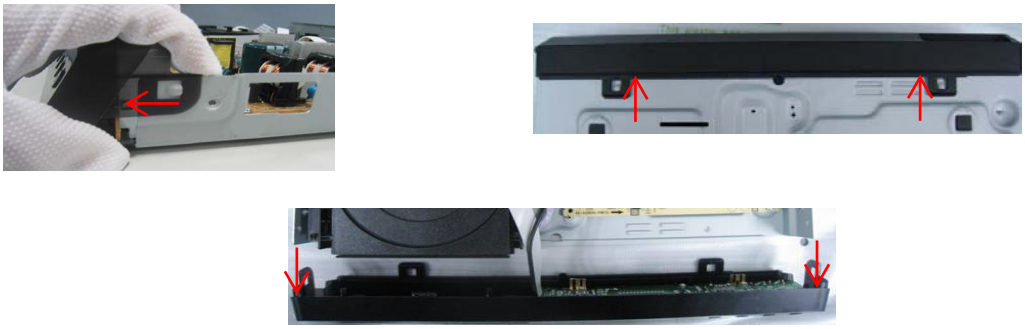


Figure 3

Step4 : Dismantle Front Control Board,remove 5 screws (Figure 4)

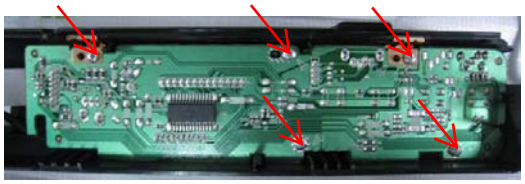


Figure 4

Step5: Dismantle Loader, disconnect the 3 connectors (XP3, XP2, XP6) aiming in the below figure, and remove 2 screws that connects the loader and the bottom cabinet. (Figure 5)

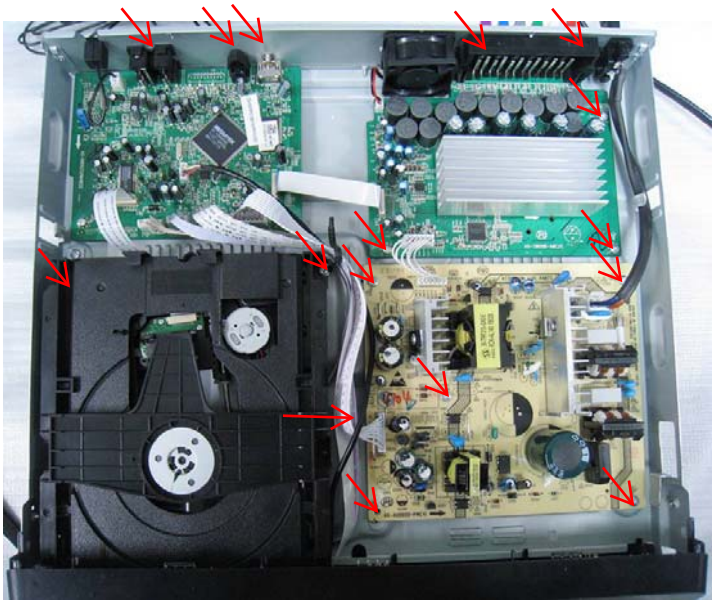


Figure 5

Mechanical and Dismantling Instructions

Dismantling Instruction Detailed information please refer to the model set.

Step6: Dismantle Main Board, first disconnect 2 connectors (XP1, XP11), and then remove 5 screws. (Figure 5/6)
Step7: Dismantle Power Board, disconnect the connectors XP702 and CN501 on Power Board,then remove 5 screws.(Figure 5/6)
Step8: Dismantle Amplifier Board, remove 5 screws (Figure 5/6)

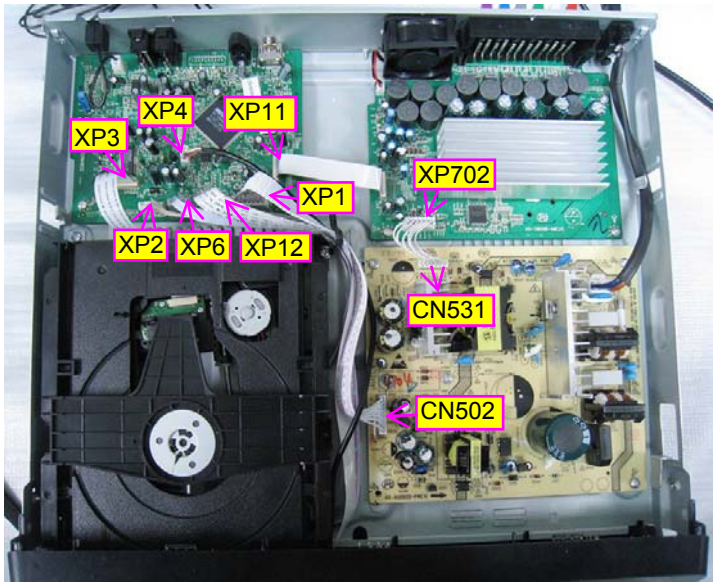


Figure 6

Software upgrade

Software upgrade method:

1.Copy the bin file as "HTS3538_XX.bin".

2.Then use the file to burn the upgrade CD-R/CD-RW.

3.Put the CD in the tray ,let the player loading the disc.

4.If the CD is correct ,it will display the Upgrade Menu ,press the PLAY key on the remote control to start upgrade

5.Afer a while, the tray will open automatically ,but must not power off the player.

6.Don't power off ,wait until the player reset automatically ,the whole upgrade process may need 2 minutes .HTS will auto standby after complete upgrade.

if you upgrade with USB device:

1.step1 is same with DISC upgrade;
2.Copy the renamed bin file(upgrade file) to the root menu of USB device.
3.connect the USB device to HTS ,and switch to USB source;
4.The rest is same to step 4,step 5 and step 6 with DISC upgrade.

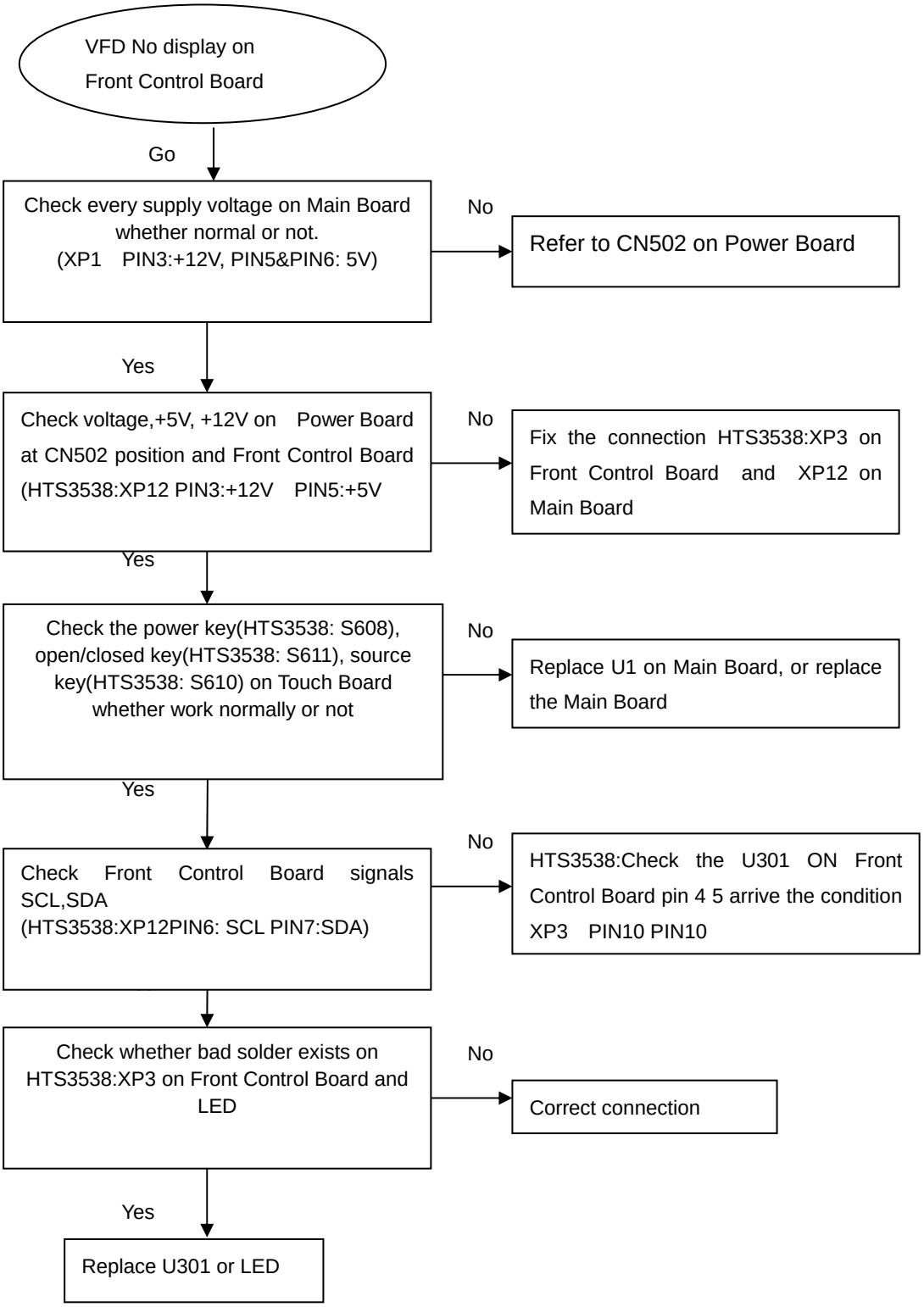
Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

How to adjust the setting after repairing:

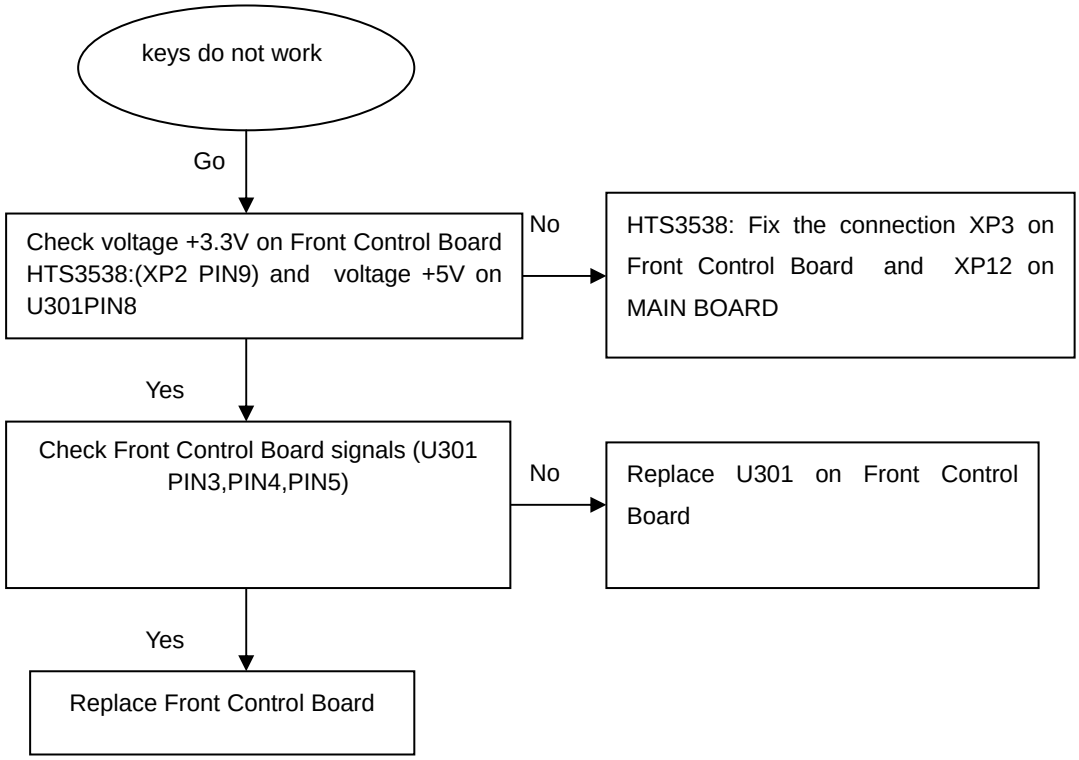
1.HTS3538/12: Open DVD tray, press “9” “9” “9” “9” “2” on R/C;
2.HTS3538/51: Open DVD tray, press “9” “9” “9” “9” “5” on R/C;
3.HTS3538/55: Open DVD tray, press “9” “9” “9” “9” “4” on R/C;
4.HTS3538/05: Open DVD tray, press “9” “9” “9” “9” “2” on R/C;
5.HTS3538/98: Open DVD tray, press “9” “9” “9” “9” “3” on R/C;

Note: Restart after above steps.

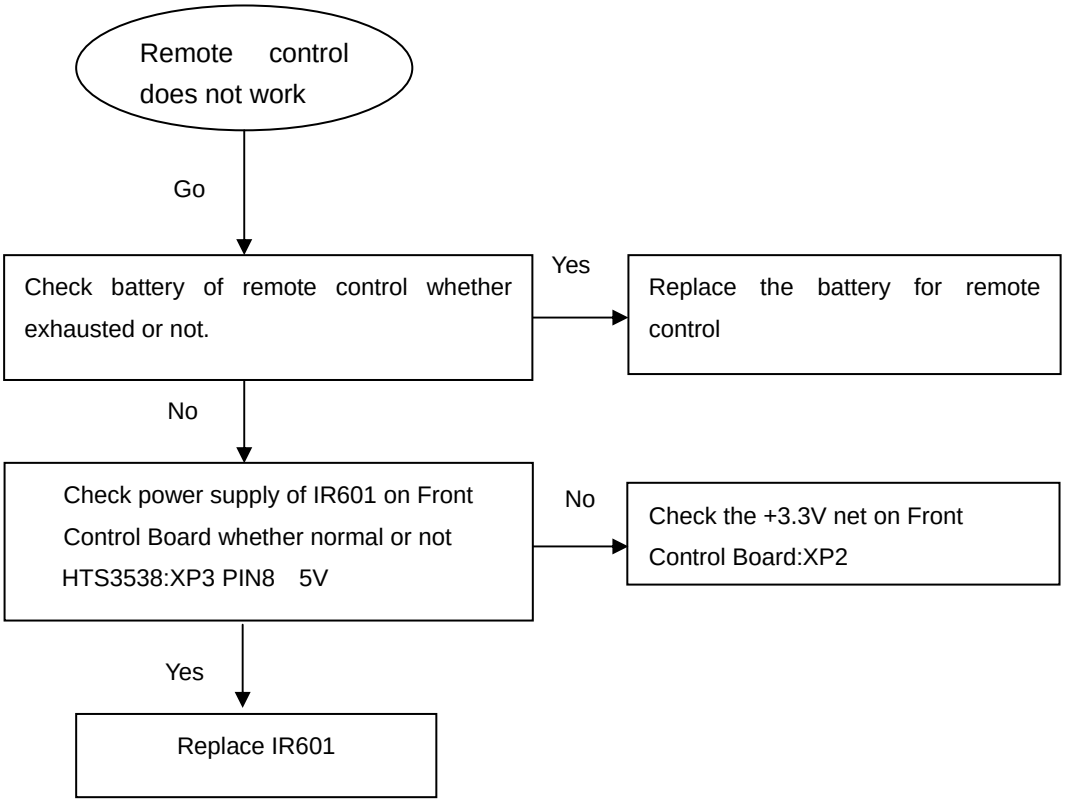
VFD No display on Front Control Board


VFD No display on
Front Control Board
Go
Check every supply voltage on Main Board whether normal or not.
(XP1 PIN3:+12V, PIN5&PIN6: 5V)
No
Refer to CN502 on Power Board
Yes
Check voltage,+5V, +12V on Power Board at CN502 position and Front Control Board (HTS3538:XP12 PIN3:+12V PIN5:+5V
No
Fix the connection HTS3538:XP3 on Front Control Board and XP12 on Main Board
Yes
Check the power key(HTS3538: S608), open/closed key(HTS3538: S611), source key(HTS3538: S610) on Touch Board whether work normally or not
No
Replace U1 on Main Board, or replace the Main Board
Yes
Check Front Control Board signals SCL,SDA
(HTS3538:XP12PIN6: SCL PIN7:SDA)
No
HTS3538:Check the U301 ON Front Control Board pin 4 5 arrive the condition XP3 PIN10 PIN10
Check whether bad solder exists on HTS3538:XP3 on Front Control Board and LED
No
Correct connection
Yes
Replace U301 or LED

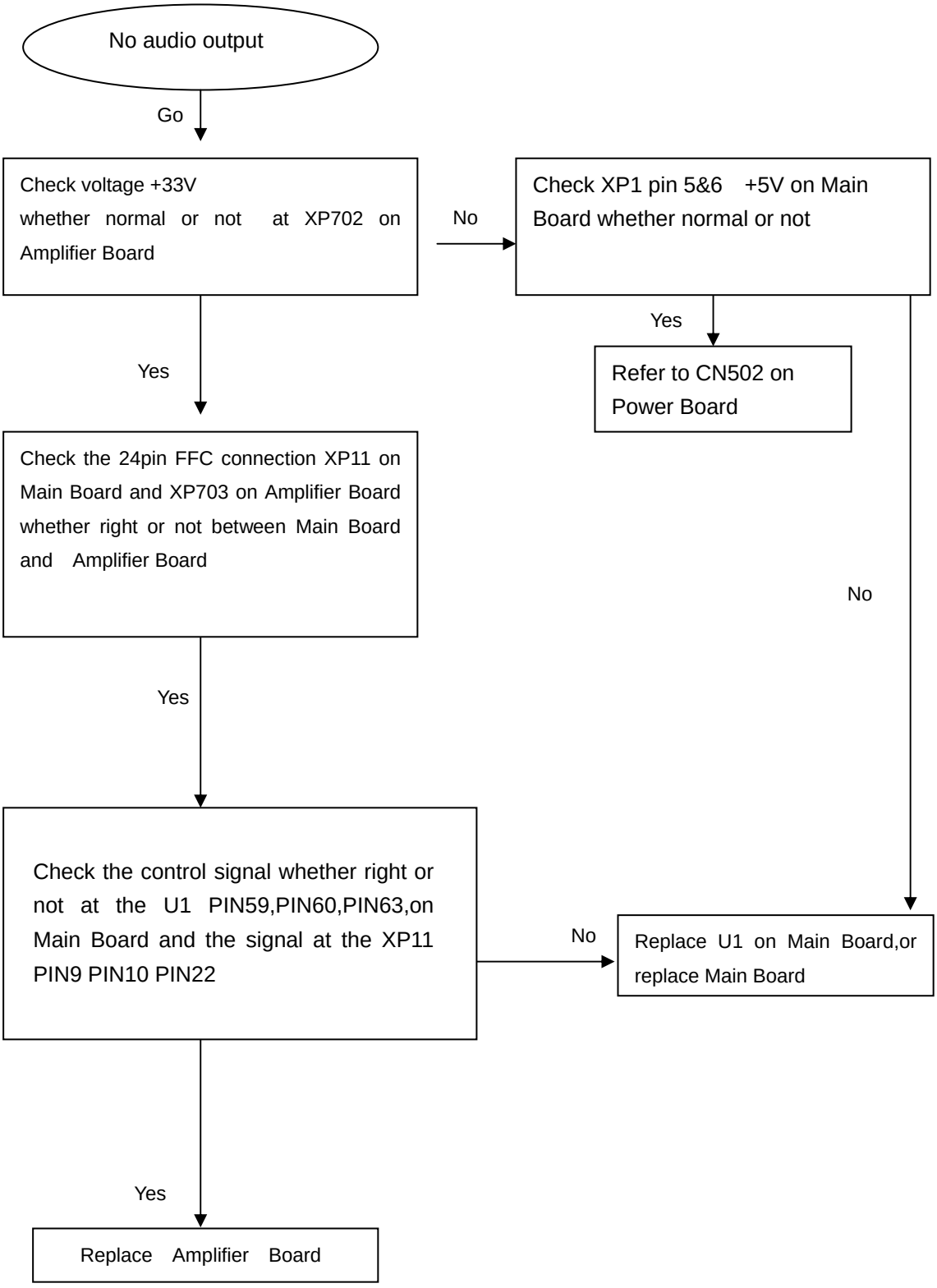
keys do not work


keys do not work
Go
Check voltage +3.3V on Front Control Board HTS3538:(XP2 PIN9) and voltage +5V on U301PIN8
No
HTS3538: Fix the connection XP3 on Front Control Board and XP12 on MAIN BOARD
Yes
Check Front Control Board signals (U301 PIN3,PIN4,PIN5)
No
Replace U301 on Front Control Board
Yes
Replace Front Control Board

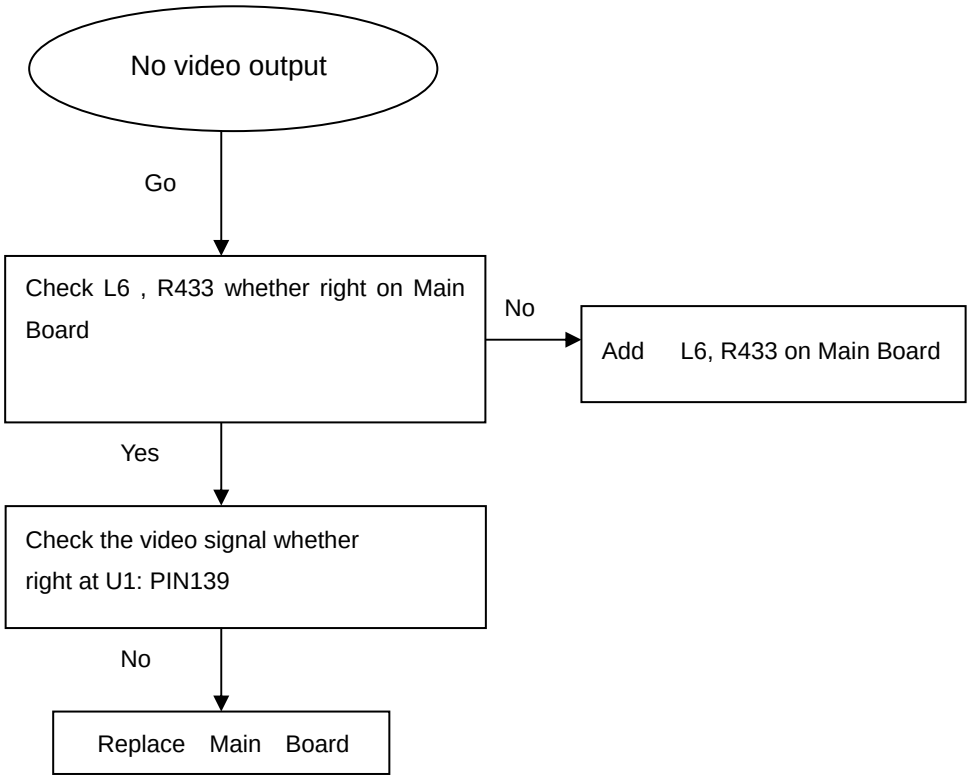
Remote control does not work


Remote control does not work
Go
Check battery of remote control whether exhausted or not.
Yes
Replace the battery for remote control
No
Check power supply of IR601 on Front Control Board whether normal or not HTS3538:XP3 PIN8 5V
No
Check the +3.3V net on Front Control Board:XP2
Yes
Replace IR601

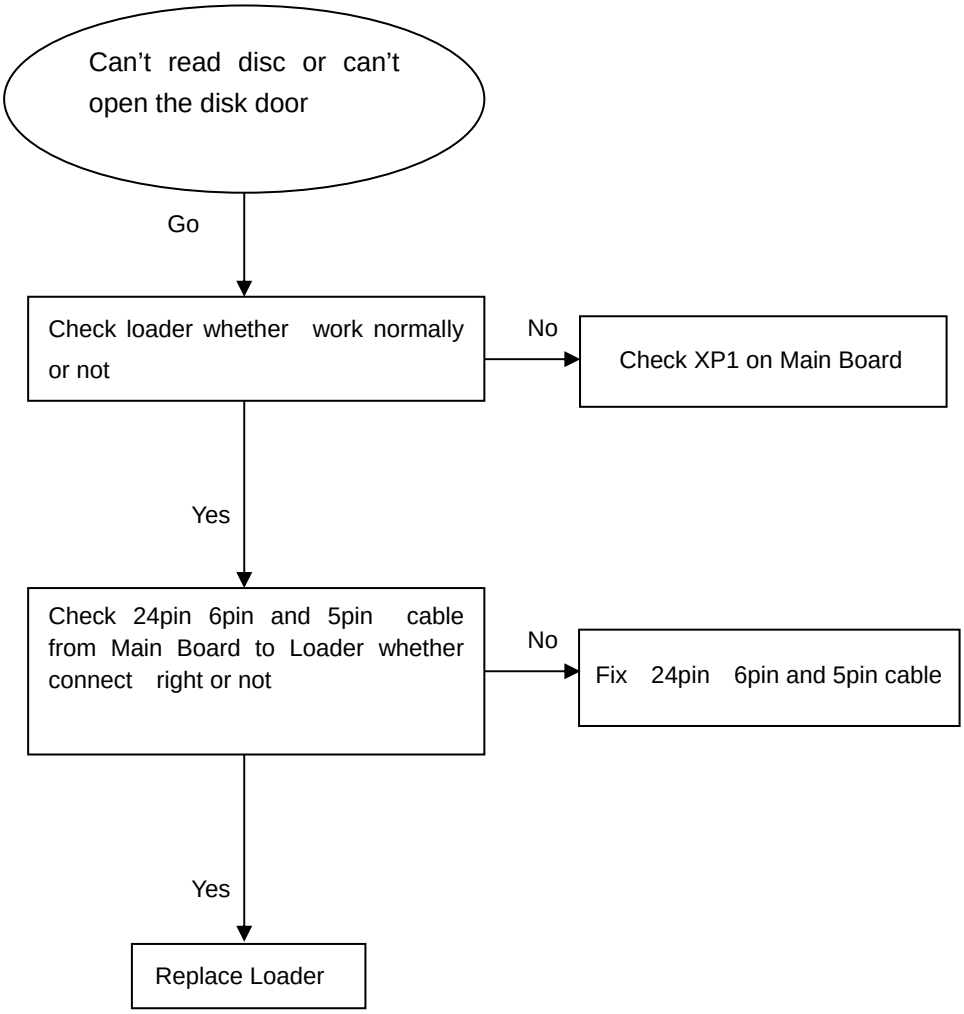
No audio output


No audio output
Go
Check voltage +33V whether normal or not at XP702 on Amplifier Board
No
Check XP1 pin 5&6 +5V on Main Board whether normal or not
Yes
Refer to CN502 on Power Board
Yes
Check the 24pin FFC connection XP11 on Main Board and XP703 on Amplifier Board whether right or not between Main Board and Amplifier Board
No
Yes
Check the control signal whether right or not at the U1 PIN59,PIN60,PIN63,on Main Board and the signal at the XP11 PIN9 PIN10 PIN22
No
Replace U1 on Main Board,or replace Main Board
Yes
Replace Amplifier Board

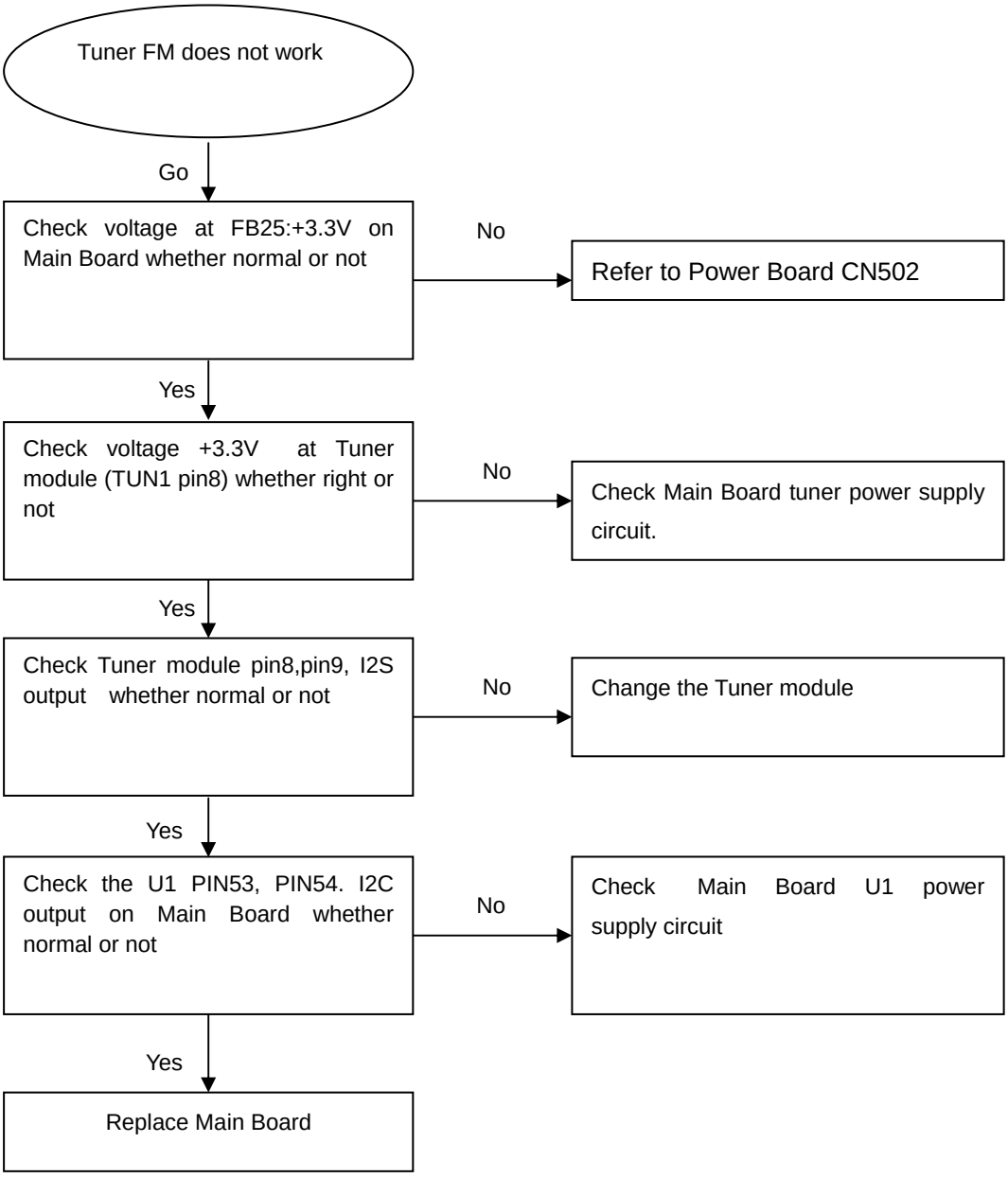
No video output



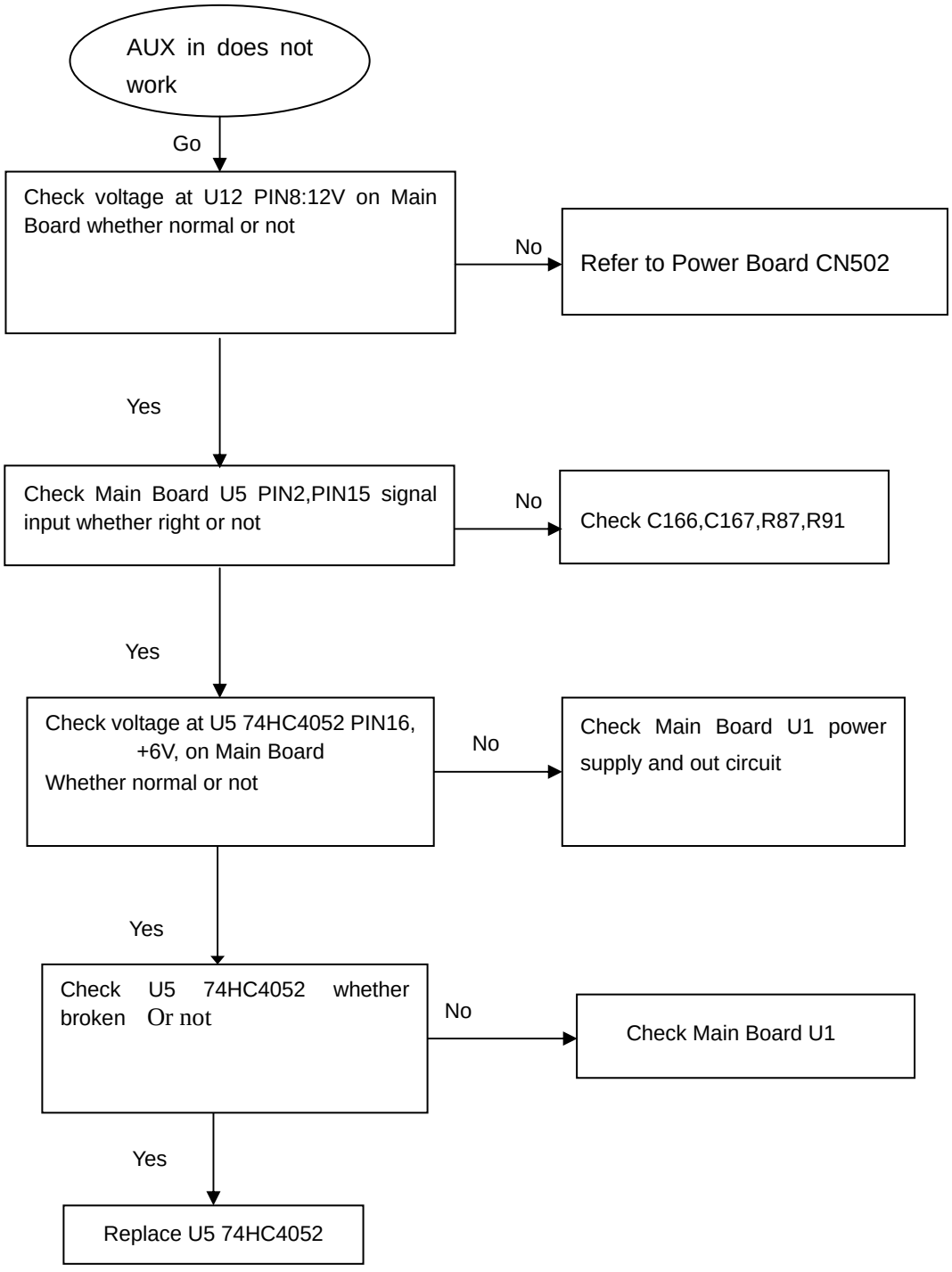
Can’t read disc or can’t open the disk door


Can’t read disc or can’t open the disk door
Go
Check loader whether work normally or not
No
Check XP1 on Main Board
Yes
Check 24pin 6pin and 5pin cable from Main Board to Loader whether connect right or not
No
Fix 24pin 6pin and 5pin cable
Yes
Replace Loader

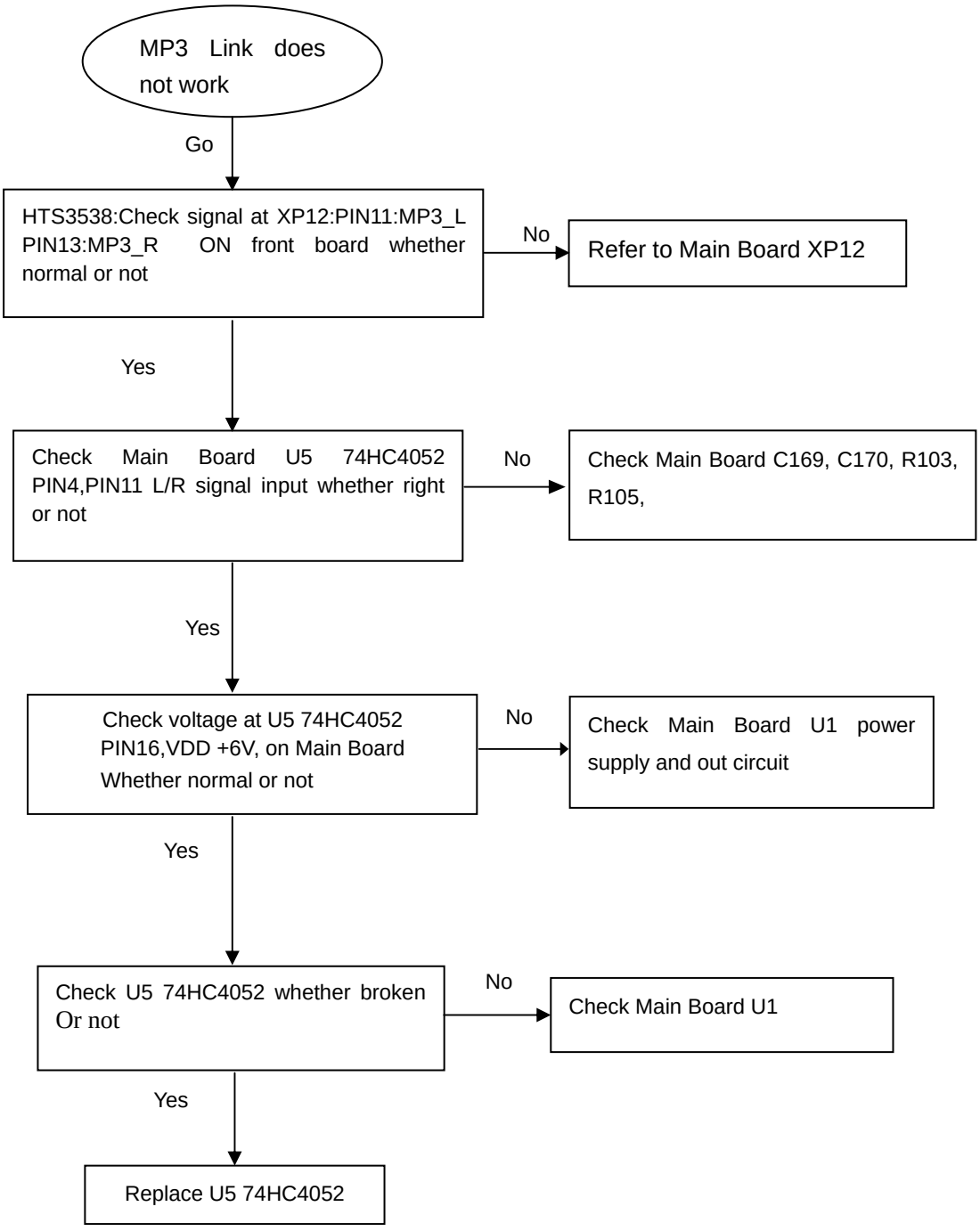
Tuner FM does not work


Tuner FM does not work
Go
Check voltage at FB25:+3.3V on Main Board whether normal or not
No
Refer to Power Board CN502
Yes
Check voltage +3.3V at Tuner module (TUN1 pin8) whether right or not
No
Check Main Board tuner power supply circuit.
Yes
Check Tuner module pin8,pin9, I2S output whether normal or not
No
Change the Tuner module
Yes
Check the U1 PIN53, PIN54. I2C output on Main Board whether normal or not
No
Check Main Board U1 power supply circuit
Yes
Replace Main Board

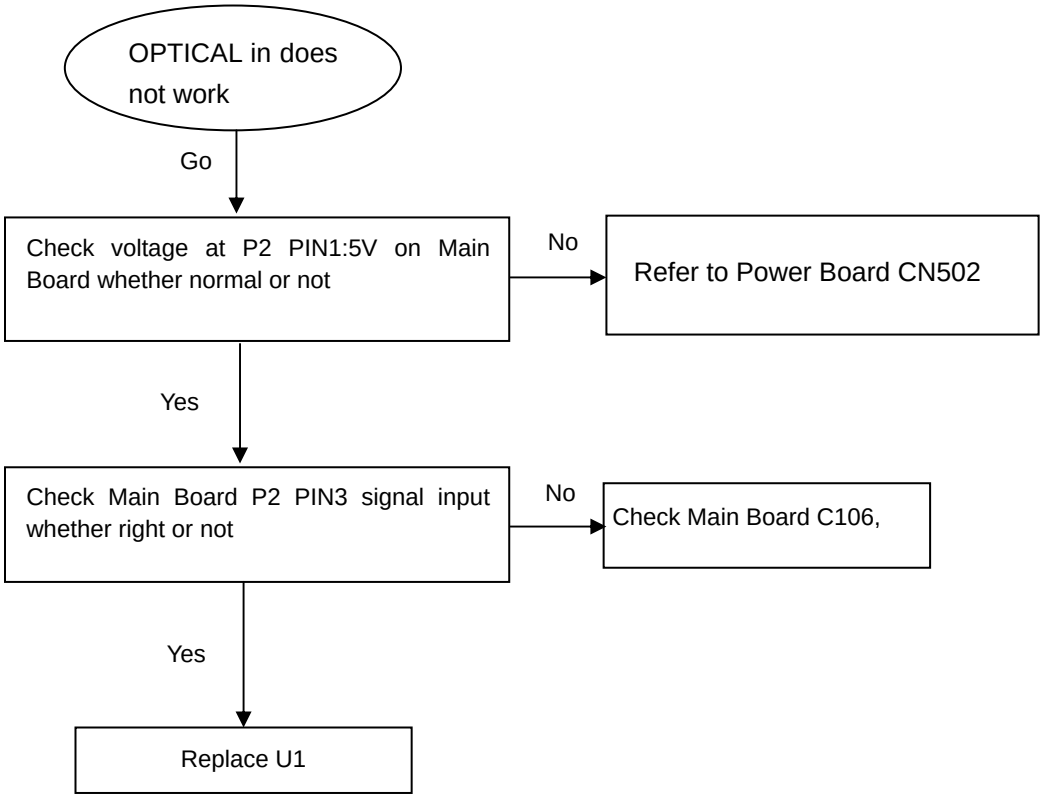
AUX in does not work


AUX in does not work
Go
Check voltage at U12 PIN8:12V on Main Board whether normal or not
No
Refer to Power Board CN502
Yes
Check Main Board U5 PIN2,PIN15 signal input whether right or not
No
Check C166,C167,R87,R91
Yes
Check voltage at U5 74HC4052 PIN16, +6V, on Main Board Whether normal or not
No
Check Main Board U1 power supply and out circuit
Yes
Check U5 74HC4052 whether broken Or not
No
Check Main Board U1
Yes
Replace U5 74HC4052

MP3 Link does not work

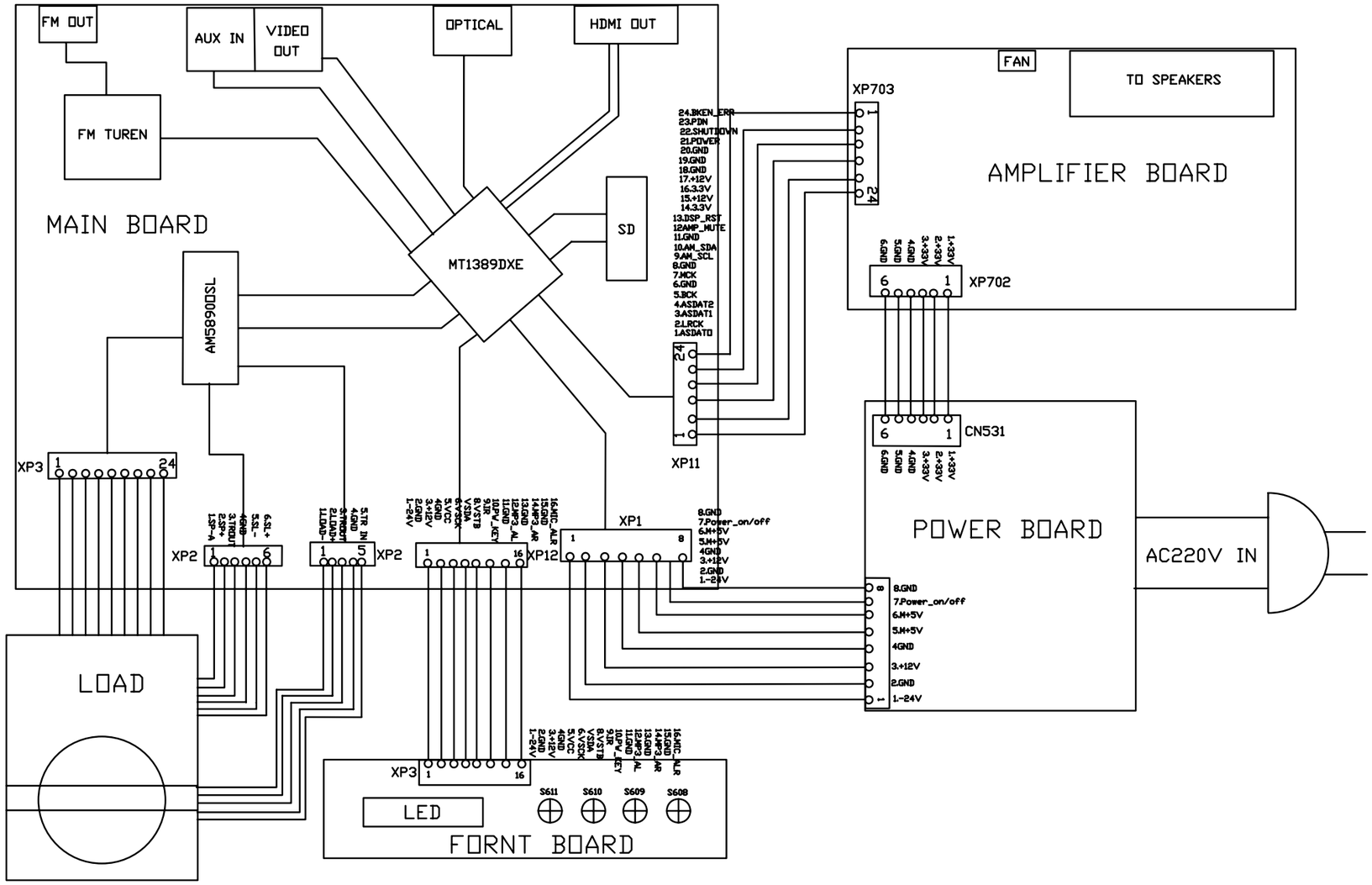

MP3 Link does not work
Go
HTS3538:Check signal at XP12:PIN11:MP3_L PIN13:MP3_R ON front board whether normal or not
No
Refer to Main Board XP12
Yes
Check Main Board U5 74HC4052 PIN4,PIN11 L/R signal input whether right or not
No
Check Main Board C169, C170, R103, R105,
Yes
Check voltage at U5 74HC4052 PIN16,VDD +6V, on Main Board Whether normal or not
No
Check Main Board U1 power supply and out circuit
Yes
Check U5 74HC4052 whether broken Or not
No
Check Main Board U1
Yes
Replace U5 74HC4052

OPTICAL IN does not work


OPTICAL in does not work
Go
Check voltage at P2 PIN1:5V on Main Board whether normal or not
No
Refer to Power Board CN502
Yes
Check Main Board P2 PIN3 signal input whether right or not
No
Check Main Board C106,
Yes
Replace U1

6-1

HTS3538/12/51/55/05/98 Block /Wiring Diagram:

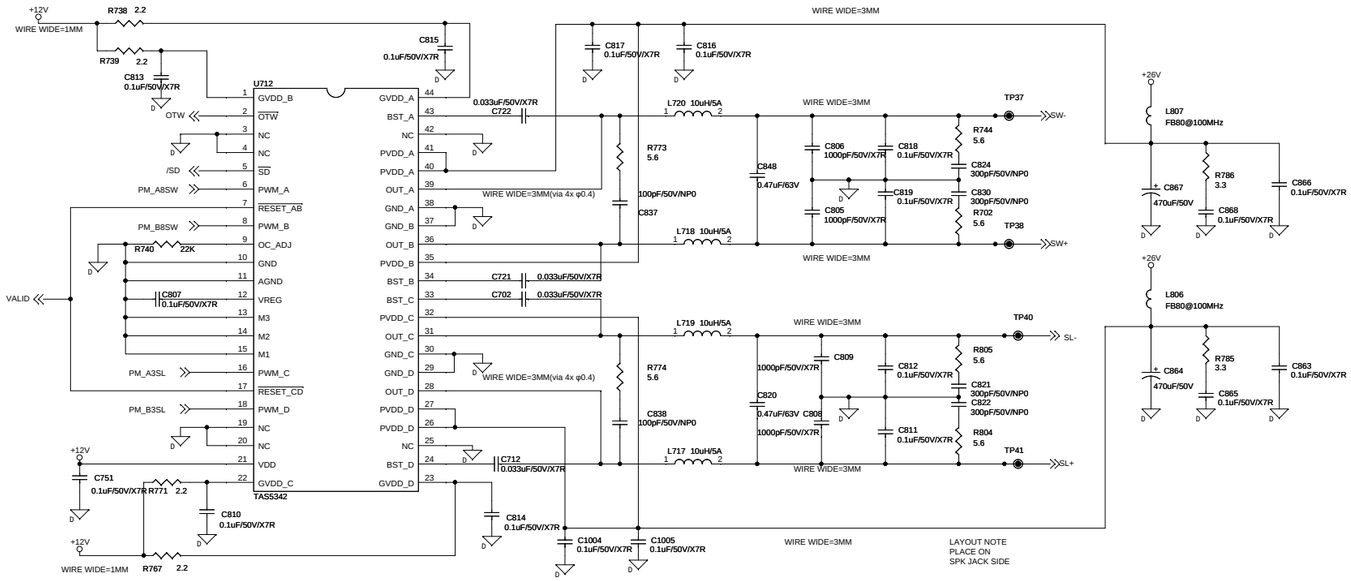


7-1

Front Control Board Circuit Diagram:

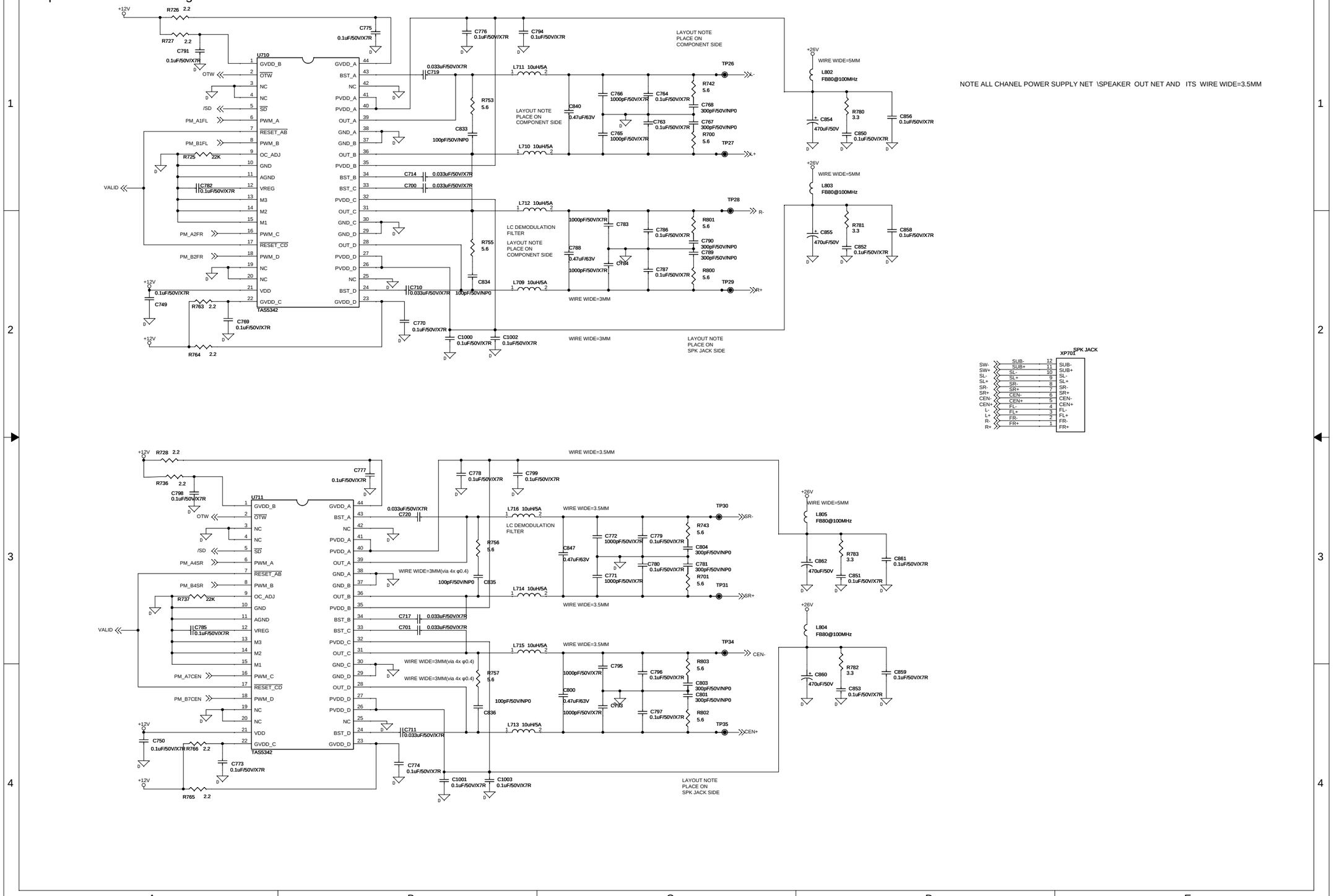
7-2

Amplifier Board Circuit Diagram:SL+SW



7-3

Amplifier Board Circuit Diagram:L+R+CEN+SR



NOTE ALL CHANEL POWER SUPPLY NET \SPEAKER OUT NET AND ITS WIRE WIDE=3.5MM

7-4

Amplifier Board Circuit Diagram:DSP

ADD FB8 AND +12V-FAN
NET FOR FAN

CHANGE Q701 FROM
8050 TO 3904

CHANGE R9 /R10 FROM
0402 TO 0603

Power ON / OFF Mute

add R718 R717

add C744 ,for EMC

CHANGE Q7 FROM
8050 TO 3904

CHANGE U705 FROM A4558 TO LM358

CHANGE R723/R722
FROM 0402 TO 0603

CHANGE FROM
1% TO 5%

adjust FAN START,change R791/R137/R139 value 2011.8.22

CHANGE FROM
0402 TO 0603

CHANGE C729/C730/C742 FROM
0603 TO 0402

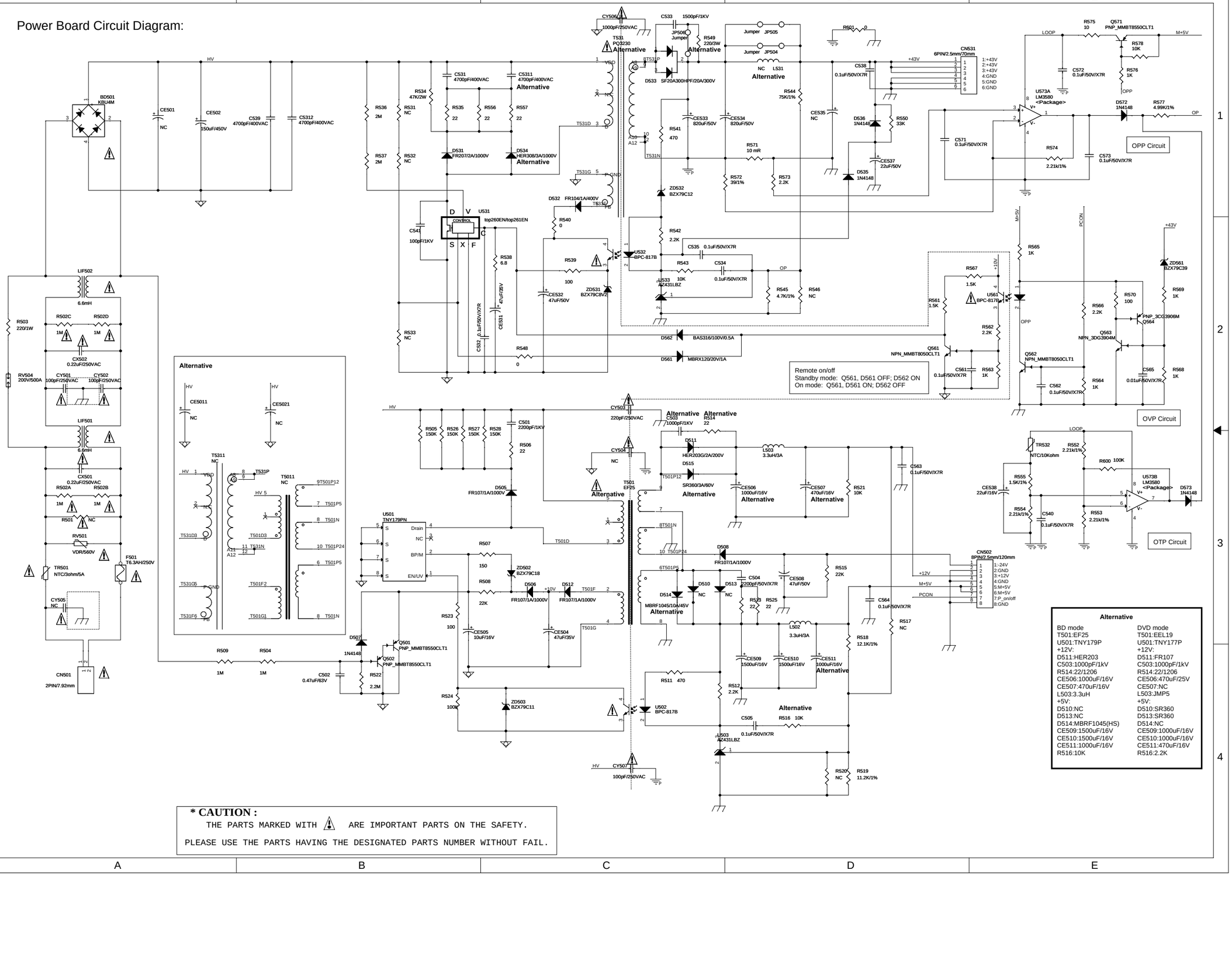
LAYOUT NOTE:
EMI SNUBBER
PLACE TO THE
RIGHT OF U100

LAYOUT NOTE:
EMI SNUBBER
PLACE TO THE
LEFT OF U100

LAYOUT NOTE:
EMI SNUBBER
PLACE NEAR
J901 PIN 1

7-5

Power Board Circuit Diagram:



7-6

Main Board Circuit Diagram for HTS3538/51/55/05/98: Power Supply

TO POWER BOARD

XP1
8PIN/2.5mm

+12V: +12V(+-10%)
+5V: +5V(+-2.5%)

POWER_ON/OFF
C125 0.1uF/25V/Y5V
FB1 300/2A
VCC
C1 0.1uF/25V/Y5V
PNP_PBSS5320T Q1
MO_VCC
C3 1uF/25V/Y5V
R14 4.7K
根据设计电流需求变更为5320三极管
R2 200
EN1
+P12V
C4 0.1uF/25V/Y5V
PNP_PBSS5320T Q2
R4 22K
R6 4.7K
100mA
+12V
CE2 47uF/16V
C5 0.1uF/25V/Y5V
R5 1.3K
D72 LL4148
PCON
R9 1K
Q3 NPN_3DG3904M
R10 4.7K
EN
R74 1.3K/NC
MMBT2907ALT1/NC Q32
R11 27K/NC
R13 4.7K/NC
Q5 3DG9014M/NC
-P24V
-24V
FB4 0/NC
C9 0.1uF/25V/Y5V/NC

MO_VCC
AVCC
FB2 0
CE1 47uF/16V
C2 0.1uF/25V/Y5V

DV33
R7 0
RFV33
CE3 47uF/16V
C6 0.1uF/25V/Y5V
89G_3V3
FB3 500/500mA
CE4 47uF/16V
C7 0.1uF/25V/Y5V

DV33
3V3
R8 NC
C8 1uF/25V/Y5V
Q6 P_ASM3403
R15 220
EN1

VCC
D1 RL207/2A/1000V
370mA
R16 8.2 /2W
440mA
R17 1/1W
TR_B1
Q10 PNP_3CA8550D
DV33
R24 20K/1%
R26 12K/1%
REGO1
CE7 220uF/16V
C761 1000pF/50V/X7R
C12 0.1uF/25V/Y5V

TR_B2
Q7 PNP_3CA8550D
V12
R23 0
CE6 220uF/16V
C762 1000pF/50V/X7R
C11 0.1uF/25V/Y5V
REGO2
R25 NC

OFF-PAGE CONNECTION

URST# ⟩⟩ URST#

Change to PMOS ASM3403; For StandBy power

RESET Circuit

89G_3V3
R18 15K/1%
R19 3.3K
R20 22K
R69 0
AM_RST
TP1
URST#
R21 3.3K
Q8 NPN_3DG3904M
Q9 NPN_3DG3904M
R22 4.7K/1%
CE5 22uF/10V
Cx
C10 0.1uF/25V/Y5V
Cx Close to IC pin
BOM 去掉不用，U4 24脚已经提供电压

7-7

Main Board Circuit Diagram for HTS3538/51/55/05/98: MT1389GH

MT1389GH
LQFP176
V1.0

OFF-PAGE CONNECTION
DRAM I/F
S-FLASH
VIDEO I/F
AUDIO I/F
SERVO I/F
TMDS I/F

SERVO RF DeCAP.
Close to IC Pin

RF Reference

Chip De cap.

Crystal
Y1 27MHz/30PPM
Put these circuits as closer as possible to MT1389

USB I/F
USB signal:
1),Via on signal is forbidden;
2),Differential impedance must control at 90 ohm.

USB Connector

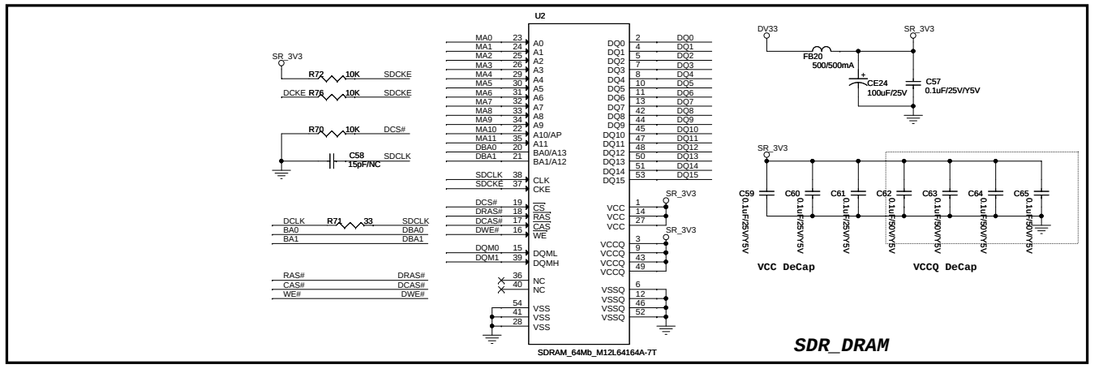
RS-232

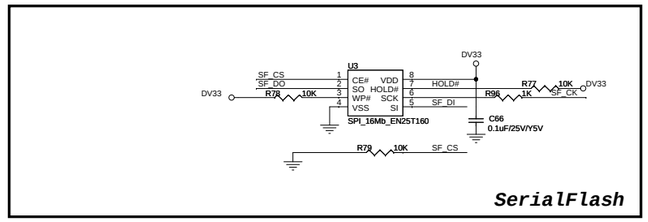
Option1
Very Important to reduce Noise

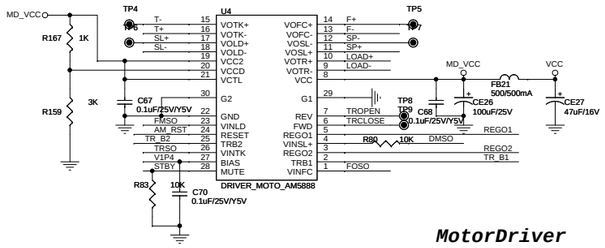
Option2: like 89G SERVO PIN.

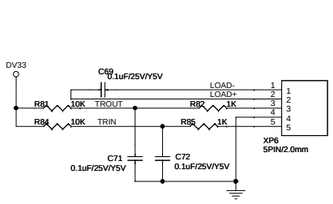
7-8

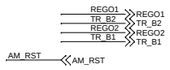
Main Board Circuit Diagram for HTS3538/51/55/05/98: SDRAM & FLASH & MOTOR



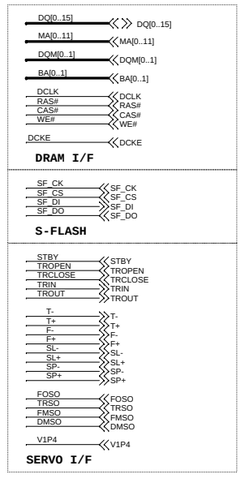






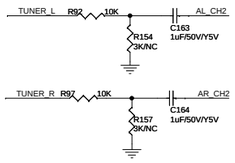


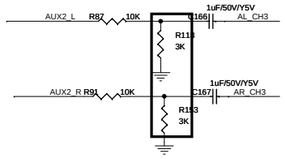
OFF-PAGE CONNECTION

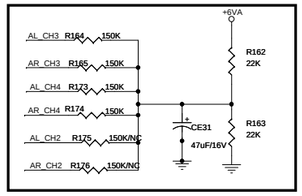


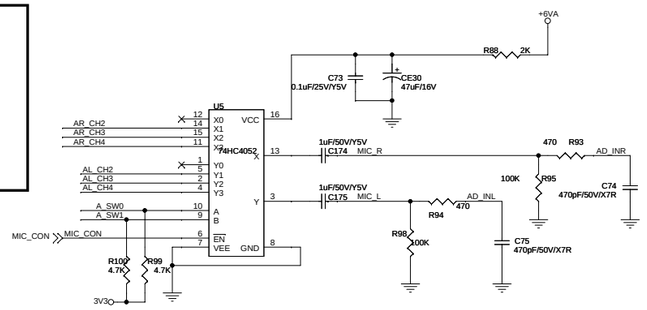
7-9

Main Board Circuit Diagram for HTS3538/51/55/05/98: AUDIO IN

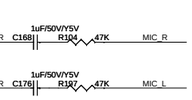


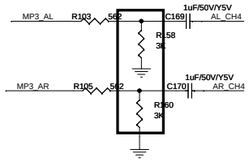


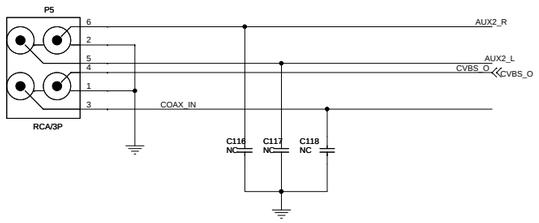




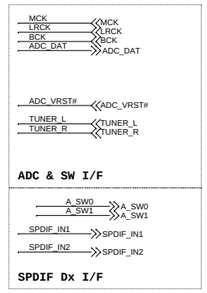
Change to NMOS ASM3402

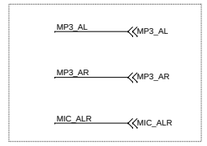


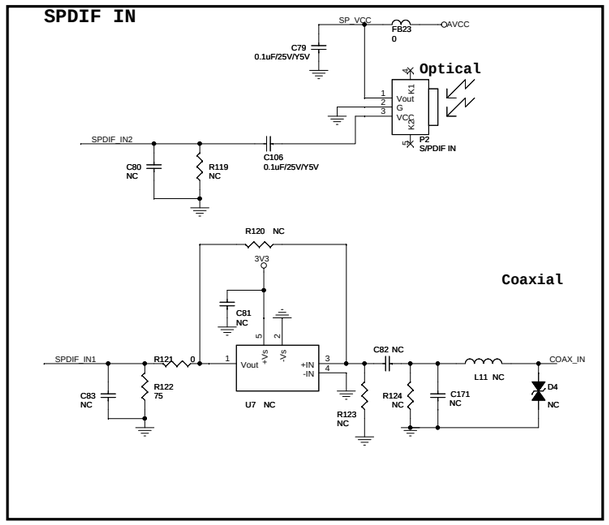


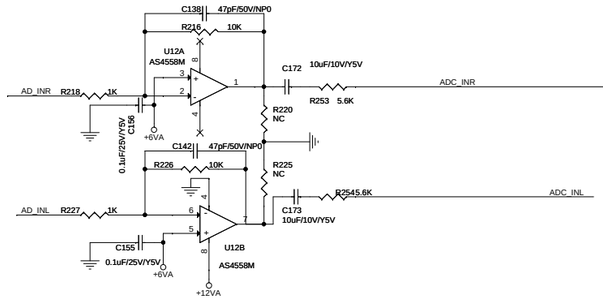


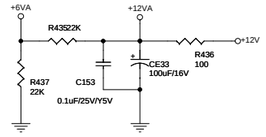
OFF-PAGE CONNECTION

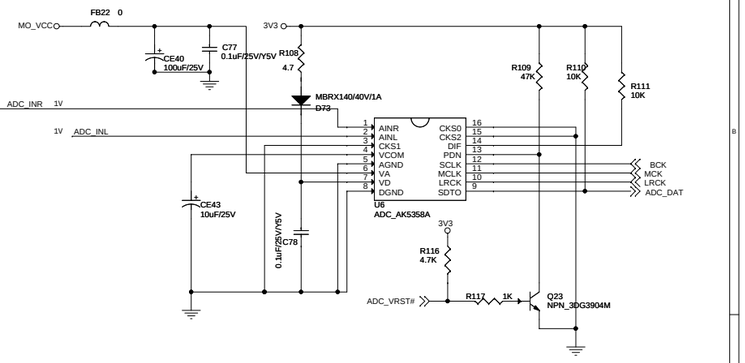






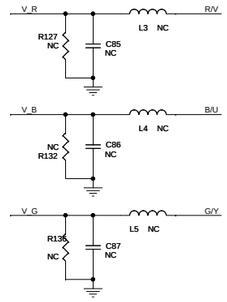


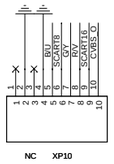


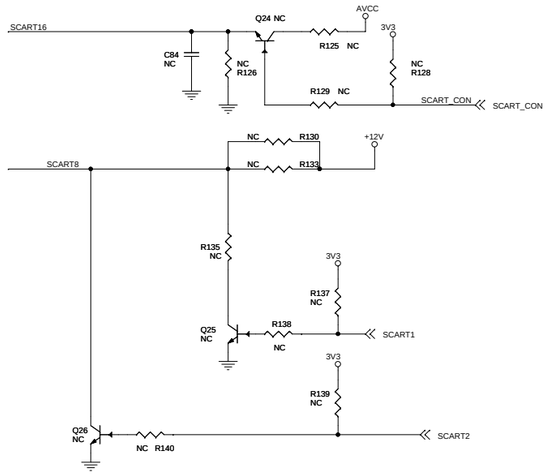


7-10

Main Board Circuit Diagram for HTS3538/51/55/05/98: VIDEO I/F







SCART_CON	SCART16
0	CVBS OUT
1	RGB OUT

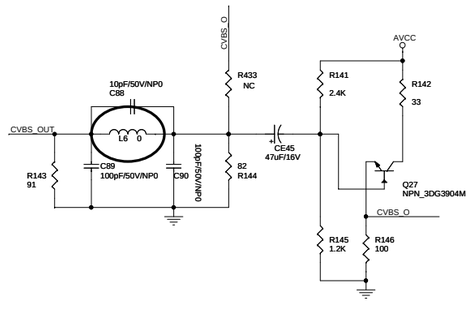
SCART2	SCART1	SCART8
1	X	0(待机)
0	1	6V(16:9)
0	0	9.5-12V(4:3)

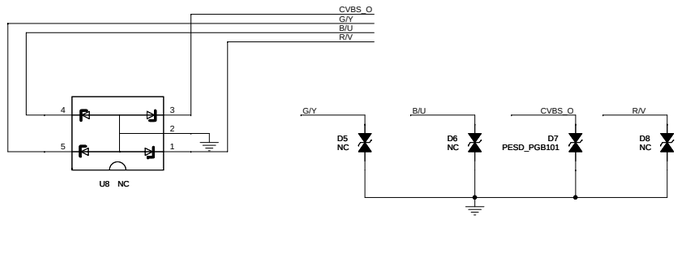
OFF-PAGE CONNECTION

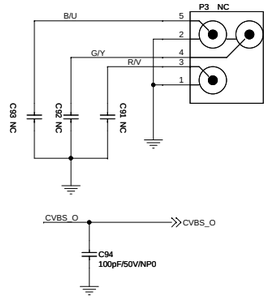
CVBS_OUT, V_R, V_B, V_G — **VIDEO I/F**

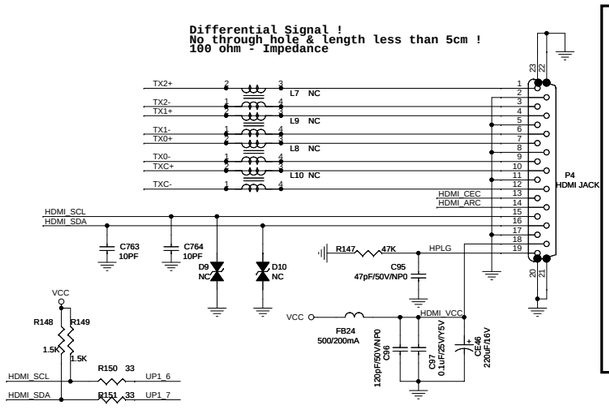
SCART_CON, SCART1, SCART2 — **SCART I/F**

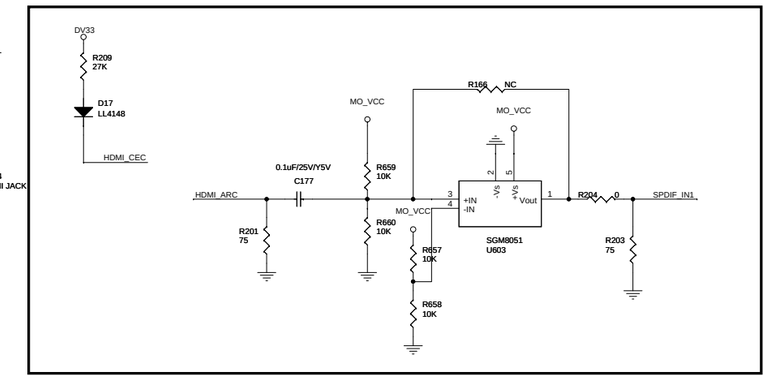
TXC+, TXC-, TX0+, TX0-, TX1+, TX1-, TX2+, TX2-, HPLG, UP1_[6..7] — **TMDS I/F**







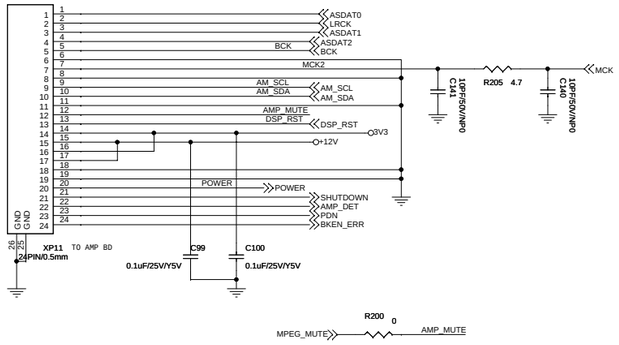


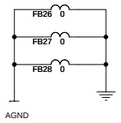


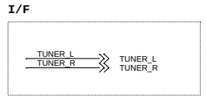
HDMI_CEC, SPDIF_IN1

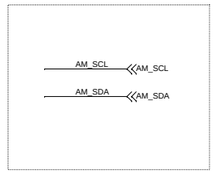
7-11

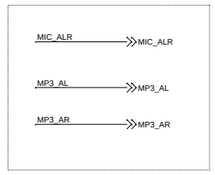
Main Board Circuit Diagram for HTS3538/51/55/05/98:AMP/FB/TUNER

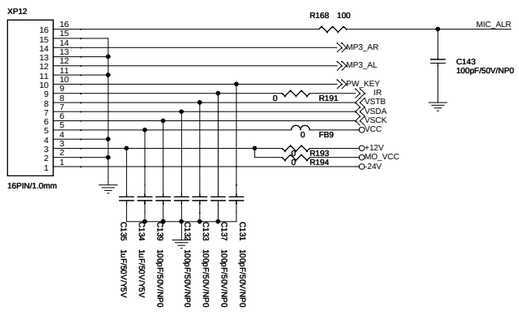


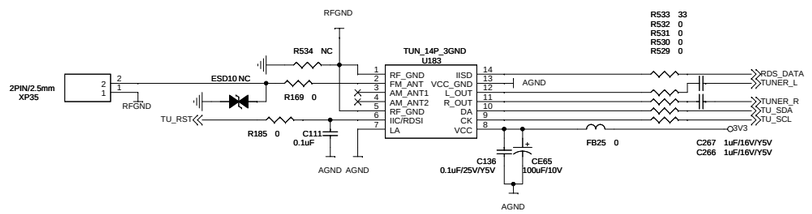






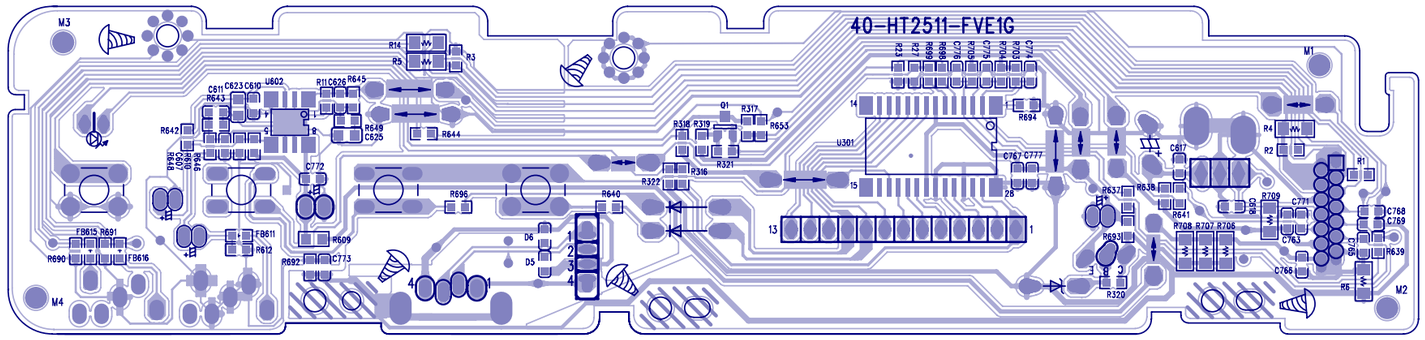






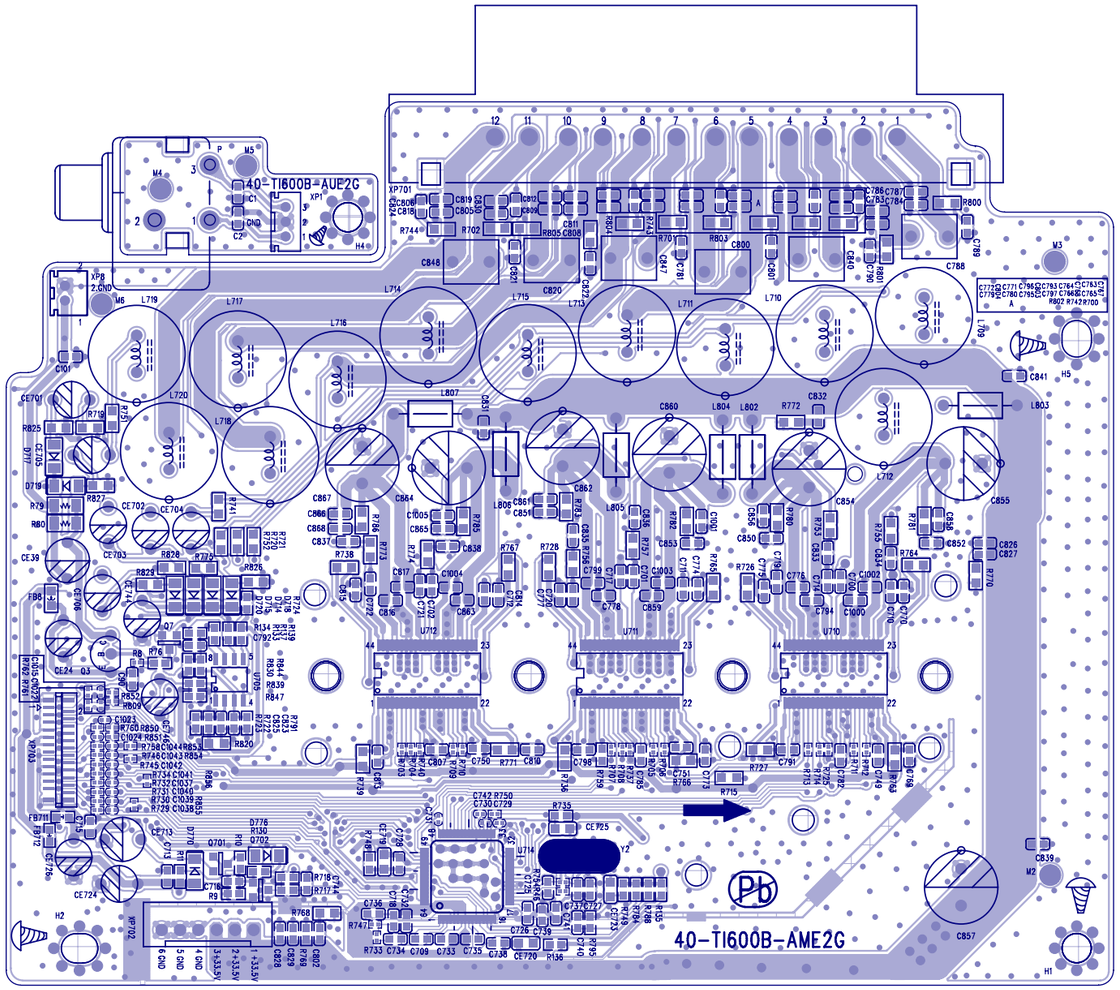
7-12

Front Control Board Print-layout (Bottom Side):



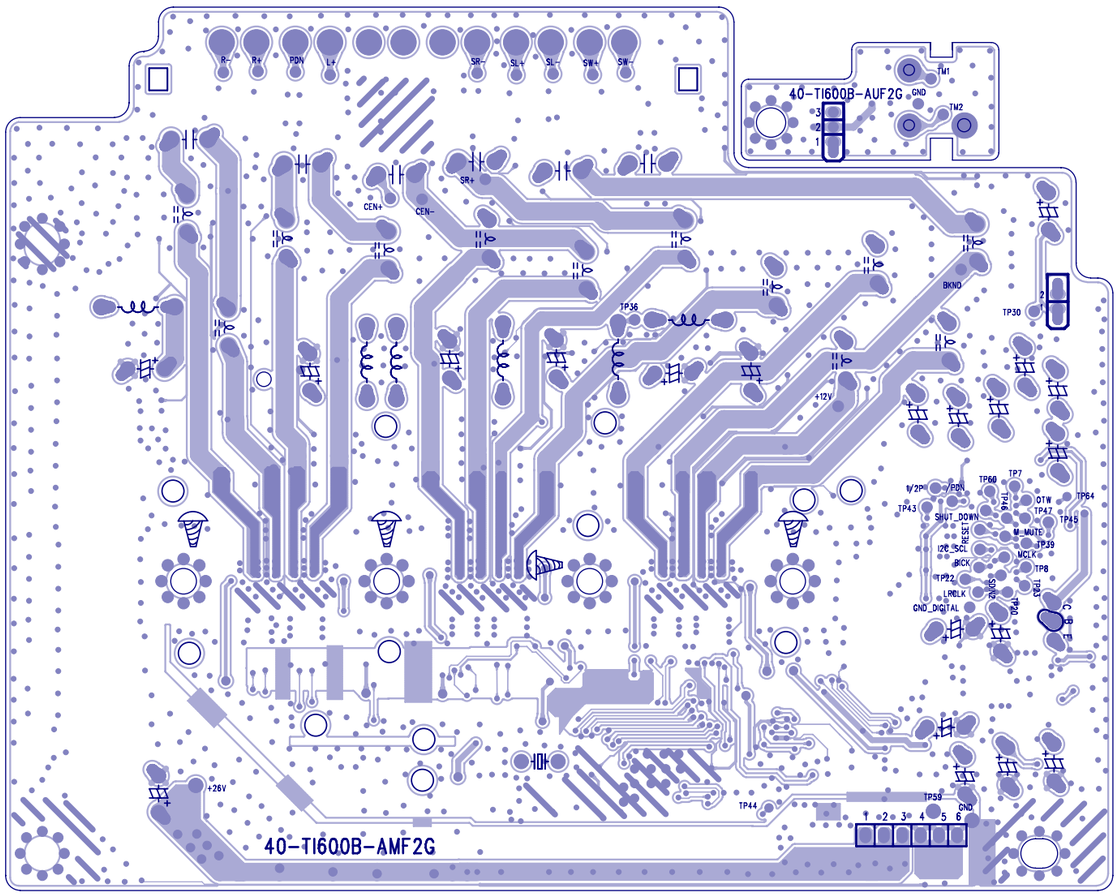
7-13

Amplifier Board Print-layout (Top Side):



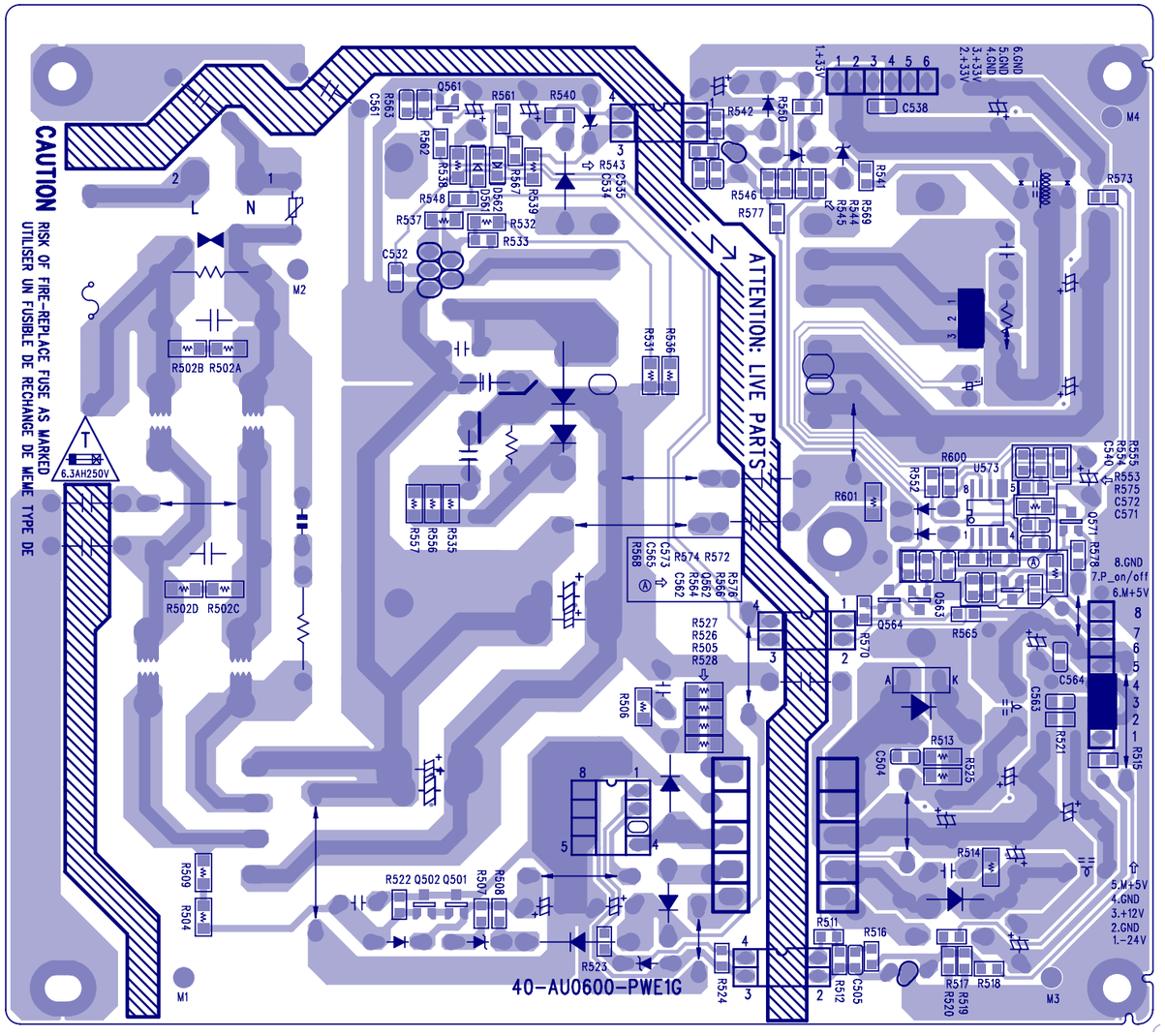
7-14

Amplifier Board Print-layout (Bottom Side):



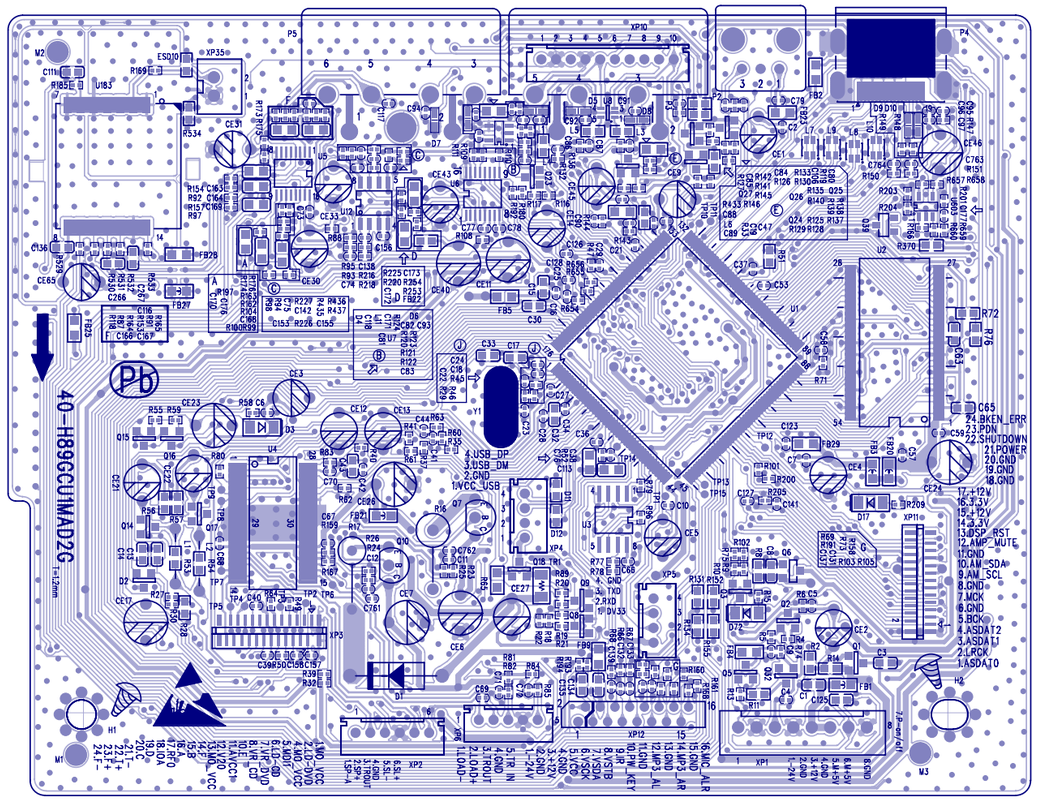
7-15

Power Supply Print-layout (Bottom Side):



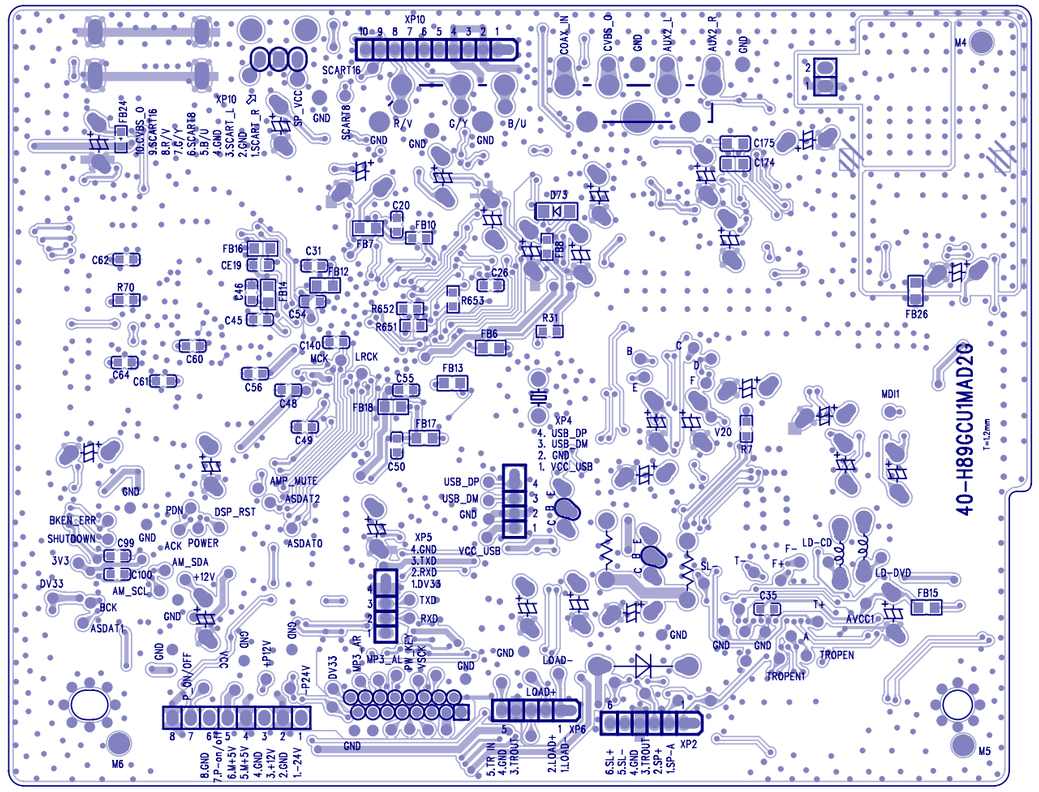
7-16

Main Board Print-layout (Top Side):

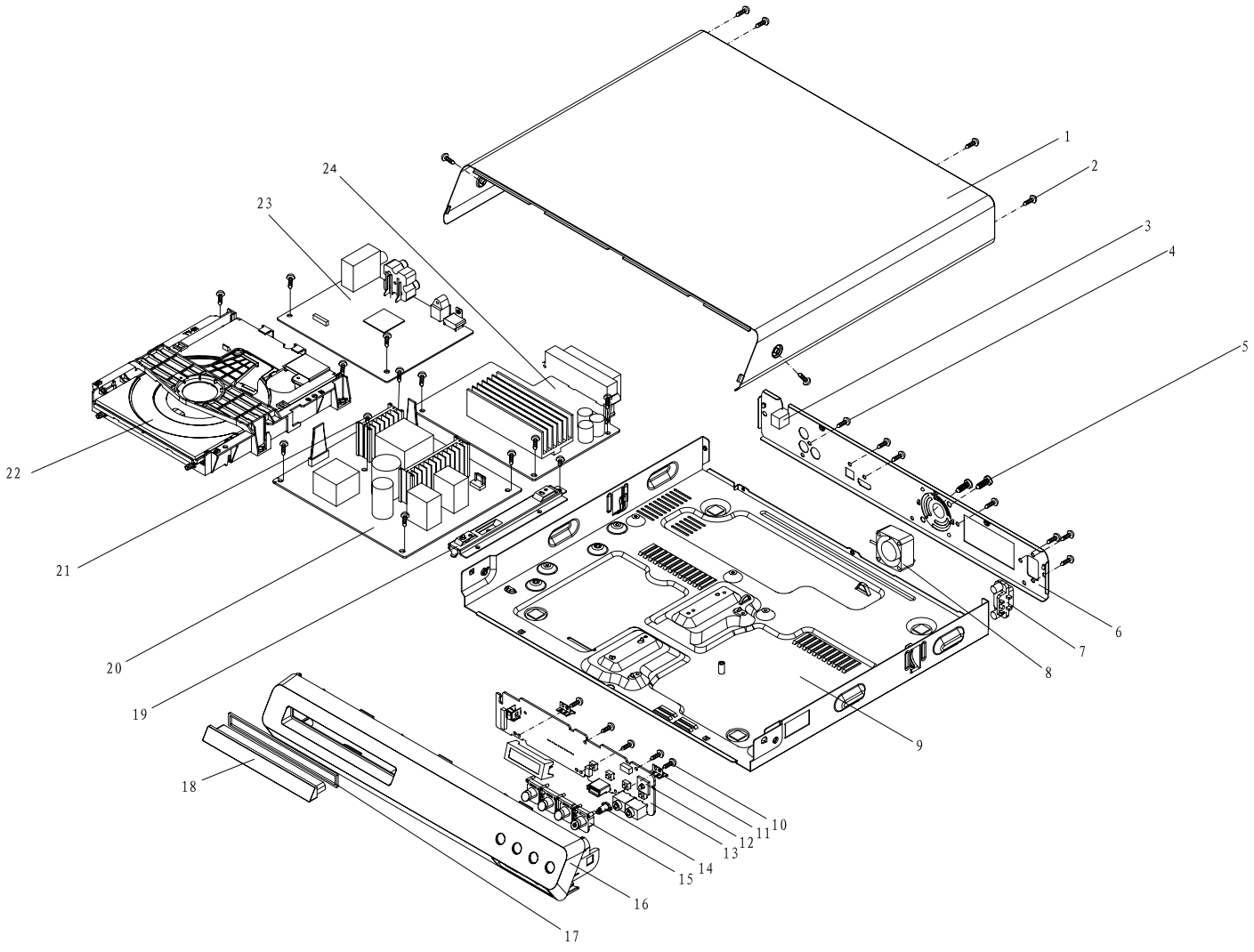


7-17

Main Board Print-layout (Bottom Side):



Exploded View for HTS3538/12/51/55/05/98:



REVISION LIST

Version 1.0

* Initial release for HTS3538/12/51

Version 1.1

* Initial release for HTS3538/55

Version 1.2

* Initial release for HTS3538/05

Version 1.3

* Initial release for HTS3538/98